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Reasons for Decision

**Westcoast Energy Inc.
Carrying on Business as
Spectra Energy
Transmission**

GH-3-2008

November 2008

Facilities

Canada



National Energy
Board

Office national
de l'énergie

NewsRelease

444 Seventh Avenue SW, Calgary, Alberta T2P 0X8

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For release at 2:30 p.m. (MST)
Tuesday 18 November 2008

NATIONAL ENERGY BOARD APPROVES WESTCOAST (SPECTRA ENERGY) SOUTH PEACE PIPELINE PROJECT

CALGARY — The National Energy Board (NEB) today approved an application from Westcoast Energy Inc., carrying on business as Spectra Energy Transmission, (Westcoast) to construct the South Peace Pipeline Project.

The proposed South Peace Pipeline Project is an approximately 92 km extension of Westcoast's existing raw gas gathering system near Fort St. John, British Columbia. The new 508 mm (20 inch) diameter pipeline would carry gas from the area south of Fort St. John and the Peace River northward to connect to Westcoast's McMahon processing plant, in Taylor, British Columbia. The project, with an estimated construction value of \$95 million, would connect to either end of an existing pipeline across the Peace River.

Canadian Standards Association (CSA) standard Z662-07 establishes essential requirements and minimum standards for the design, materials, construction, operation, and maintenance of gas pipeline systems. The CSA standard has specific provisions for sour gas service pipelines. Westcoast committed to meet all applicable provisions in the standard.

The South Peace Pipeline will be linked to Westcoast's control room in Fort St. John, British Columbia. Westcoast also has a comprehensive Emergency Management Plan that is updated annually and filed with the NEB, and an Operations Security Plan to help ensure the safety of the public and Westcoast employees by maintaining the security of all Westcoast facilities. The South Peace Pipeline will be incorporated into Westcoast's existing Security Plan.

The NEB noted that Westcoast effectively identified potentially affected stakeholders and Aboriginal people with an interest in the project and that consultation has been ongoing since July 2007. The NEB determined that impacts on Aboriginal interests are likely to be minimal and that potential impacts will be appropriately mitigated. The NEB expects Westcoast to provide ongoing information to members of the Kiskatinaw Pipeline Landowners Association, and interested landowners and residents, regarding Westcoast's programs to address issues associated with hydrogen sulphide (H₂S). Westcoast committed to a Continuing Education Program to provide public awareness and education for landowners, residents and businesses that could be affected by a release from the South Peace Pipeline.

Along with the Reasons for Decision approving the project, the NEB also released the Environmental Screening Report (ESR) for the South Peace Pipeline Project, as required by the Canadian Environmental Assessment Act (CEA Act).

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After a draft ESR was circulated for public comment on 25 September 2008, the final ESR concluded that with the implementation of Westcoast's environmental protection procedures and mitigation measures, and the NEB's recommendations, the Project is not likely to cause significant adverse environmental impacts.

The NEB issued Hearing Order GH-3-2008 on 12 March 2008 and held a public hearing in Dawson Creek, British Columbia on 26 August 2008.

The NEB is an independent federal agency that regulates several parts of Canada's energy industry. Its purpose is to promote safety and security, environmental protection, and efficient energy infrastructure and markets in the Canadian public interest, within the mandate set by Parliament in the regulation of pipelines, energy development and trade.

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This news release and the Reasons for Decision are available on the Board's Internet site at www.neb-one.gc.ca under What's New!

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National Energy Board

Reasons for Decision

In the Matter of

Westcoast Energy Inc. Carrying on Business as Spectra Energy Transmission

South Peace Pipeline Project
Application dated 27 February 2008

GH-3-2008

November 2008



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Acronyms and Abbreviations

AIA	Archaeological Impact Assessment
Applicant	Westcoast Energy Inc., carrying on business as Spectra Energy Transmission (Westcoast)
BC	British Columbia
Board or NEB	National Energy Board
CEA Act	<i>Canadian Environmental Assessment Act</i>
Certificate	Certificate of Public Convenience and Necessity issued under section 52 of the NEB Act authorizing the construction and operation of a facility.
CSA	Canadian Standards Association
CSA Z662-07	Canadian Standards Association Z662-07, Oil and Gas Pipeline Systems
Draft ESR	Draft Environmental Screening Report
EnCana	EnCana Corporation
EPP	Environmental Protection Plan
ERCB	Alberta Energy Resources Conservation Board
EPZ	Emergency Planning Zone
ERP	Emergency Response Plan
ESD valve	emergency shut down valve
ESR	Environmental Screening Report
FA(s)	Federal Authority(ies)
Federal Coordination Regulations	<i>CEA Act Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements</i>
H ₂ S	hydrogen sulphide
ILMB	Integrated Land Management Bureau
IMP	integrity management program
km	kilometre(s)

KPLA	Kiskatinaw Pipeline Landowners Association
Liquids Handling Loop	approximately 1 km of 508.0 mm OD (20 inch) liquids drop-out handling loop pipeline to be constructed in a common trench with the McMahon Tie-in Pipeline
m	metre(s)
m^3/d	cubic metres per day
McMahon Tie-in Pipeline	approximately 4.2 km of 508.0 mm OD (20 inch) pipeline that will connect with Westcoast's Peace River Crossing Pipeline on the north side of the Peace River at NE1/4 31-082-17 W6M to the east side of the McMahon Plant at NE1/4 25-082-18 W6M
mm	millimeter(s)
MMcf/d	million cubic feet per day
MMscf/d	million standard cubic feet per day
MOP	maximum operating pressure
NEB Act	<i>National Energy Board Act</i>
NGO	non-government organization
OD	outside diameter
OPR-99	<i>Onshore Pipeline Regulations, 1999</i>
Project	South Peace Pipeline Project
RA(s)	Responsible Authority(ies)
Reasons	Reasons for Decision
RoW	right of way
SCADA	Supervisory Control and Data Acquisition
South Peace Pipeline	approximately 87.5 km of 508.0 mm OD (20 inch) pipeline extending from a proposed producer receipt point at c-95-E/93-P-08 in the Noel gas supply area to SW1/4 04-082-17 W6M
TLU	Traditional Land Use

Recital and Appearances

IN THE MATTER OF the *National Energy Board Act* and the regulations made thereunder;

IN THE MATTER OF an application dated 27 February 2008 by Westcoast Energy Inc., carrying on business as Spectra Energy Transmission, for a Certificate under section 52 of the NEB Act authorizing the construction and operation of the South Peace Pipeline Project;

AND IN THE MATTER OF National Energy Board Hearing Order GH-3-2008, dated 12 March 2008.

HEARD in Dawson Creek, British Columbia on 26 August 2008;

BEFORE:

Mr. R.R. George	Presiding Member
Mr. K. Bateman	Member
Mr. D. Hamilton	Member

Appearances	Participants	Witnesses
Mr. D. Davies	Westcoast	Mr. G. Andrews Mr. D. Cameron Mr. S. Henderson Mr. B. Hrychuk Mr. G. Metz Mr. B. Moffat Mr. J. Murphy Mr. A. Povey Mr. C. Rice Mr. A. Ritchie Mr. D. Rae Mr. B. Tanaka Mr. G. Weilinger
Mr. O. Jorgensen	Kiskatinaw Pipeline Landowner Association	Mr. O. Jorgensen
Ms. C. Worthy	B.P. Canada	
Mr. K. Hadley	EnCana Corporation	
Ms. K. Lozynsky	National Energy Board	

Chapter 1

Introduction

1.1 The Application

Westcoast Energy Inc., carrying on business as Spectra Energy Transmission (Westcoast), owns and operates a natural gas pipeline system extending from points in the Yukon Territory, the Northwest Territories, Alberta and British Columbia to a point on the international boundary between Canada and the United States of America near Huntingdon, British Columbia. The Westcoast pipeline system is regulated by the NEB.

On 27 February 2008, Westcoast applied to the National Energy Board (the Board or NEB) pursuant to section 52 of the *National Energy Board Act* (NEB Act), for a Certificate of Public Convenience and Necessity for the construction and operation of the South Peace Pipeline Project (the Project). The purpose of the Project is to enable Westcoast to provide raw gas transmission and treatment services to producers with natural gas reserves in the South Peace area. This will be done by extending the Fort St. John gathering system to the south of the McMahon Plant to a proposed producer receipt point in the Noel gas supply area. Figure 1-1 provides an overview of the Project.

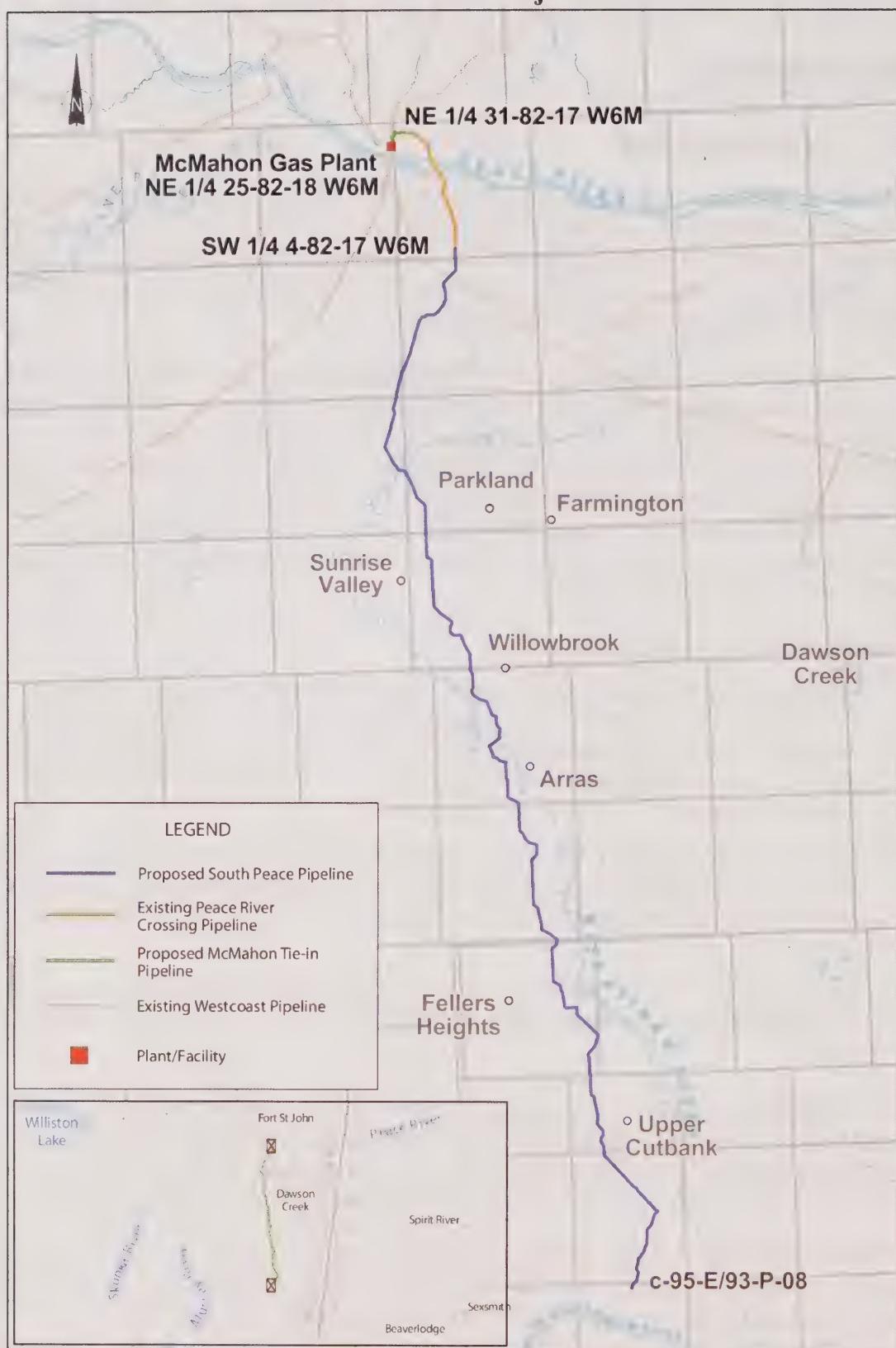
The Project facilities would include:

- approximately 87.5 kilometres (km) of 508.0 millimetre (mm) outside diameter (OD) (20 inch) pipeline extending from a proposed producer receipt point at c-95-E/93-P-08 in an area known as the Noel gas supply area to SW1/4 04-082-17 W6M (South Peace Pipeline) where the pipeline will tie in to the upstream end of the existing Peace River Crossing Pipeline;
- approximately 4.2 km of 508.0 mm OD (20 inch) pipeline that will connect the existing Peace River Crossing Pipeline on the north side of the Peace River at NE1/4 31-082-17 W6M to the east side of the McMahon Plant at NE1/4 25-082-18 W6M (McMahon Tie-in Pipeline); and
- approximately 1 km of 508.0 mm OD (20 inch) liquids drop-out handling loop pipeline to be constructed in a common trench with the McMahon Tie-in Pipeline (Liquids Handling Loop).

The Board decided to consider the application in an oral hearing and on 12 March 2008 issued Hearing Order GH-3-2008, which established the process for the Board's consideration of the Application. The Hearing Order included the list of issues which the Board considered during its assessment of the Application. The List of Issues is included in Appendix I of these Reasons.

The Board hosted a procedural workshop in Dawson Creek, British Columbia (BC) on 12 March 2008. The purpose of the workshop was to offer information to parties on how the Board examines applications for pipelines and associated facilities and how parties can participate in these processes. The workshop also provided an opportunity for parties to ask procedural

Figure 1-1
Overview of Project



questions of Board staff. On 25 August 2008, the Board hosted an information session, again in Dawson Creek, BC. The purpose of the information session was to provide specific information on the Board's oral public hearing process and to answer any questions parties might have regarding that process.

The public hearing was held on 26 August 2008 in Dawson Creek, BC.

Since the Project requires a Certificate of Public Convenience and Necessity under section 52 of the NEB Act, the requirement for an environmental assessment under the *Canadian Environmental Assessment Act* (CEAA Act) is triggered. Since the Project would not require more than 75 km of new RoW, as defined in the CEA Act *Comprehensive Study List Regulations*, the Project was subject to a screening level of environmental assessment under the CEA Act.

On 25 September 2008 the Board released a draft Environmental Screening Report (Draft ESR) for public comment.

The final Environmental Screening Report (ESR) incorporates the comments received on the Draft ESR and provides the views of the Board and the Board's determination under the CEA Act. The ESR is included in Appendix III of these Reasons.

1.2 In the Public Interest

In reviewing an application for a Certificate, the Board must consider whether the applied-for facilities are in the overall Canadian public interest. In doing so, the Board must, after carefully weighing all of the evidence in the proceeding, exercise its discretion in balancing the interests of a diverse public.

The Board has described the public interest in the following terms:

The public interest is inclusive of all Canadians and refers to a balance of economic, environmental and social interests that change as society's values and preferences evolve over time. As a regulator, the Board must estimate the overall public good a project may create and its potential negative aspects, weigh its various impacts, and make a decision.¹

In making its determination regarding public convenience and necessity, the Board must rely only on the facts that are established to its satisfaction through the hearing process, and must also proceed in compliance with the principles of natural justice.

1.3 Reasons for Decision GH-3-2008

These Reasons provide an overview of the matters considered by the Board in reaching a decision on the application. Details of the Board's assessment of issues identified by the Board or by parties to the proceeding are set out in these Reasons. In coming to its findings, the Board considered all of the evidence on the record in this matter. The regulatory documents on file in the GH-3-2008 Hearing are available on the Board's website, www.neb-one.gc.ca.

¹ *Pipeline Regulation in Canada: A Guide for Landowners and the Public*, National Energy Board, page 21.

Chapter 2

Facilities, Safety and Security

2.1 Role of the Board

The Board uses a risk-based approach in ensuring that NEB-regulated facilities and activities are safe and secure, and are perceived to be so, from their initial construction through to their eventual abandonment. In its consideration of the safety of proposed facilities, the Board assesses at a conceptual level whether or not the facilities are appropriately designed for the product being transported, the range of anticipated operating conditions, and the human and natural environment in which the facility would be located. Specific considerations include the company's approach to engineering design, facilities operation, integrity management, security, emergency management and preparedness, and health and safety.

When a company designs, constructs, operates or abandons a pipeline, it must do so in accordance with the NEB's *Onshore Pipeline Regulations*, 1999 (OPR-99), the commitments made during the hearing and the conditions attached to any approval granted. OPR-99 references various engineering codes and standards including Canadian Standards Association Z662 Oil and Gas Pipeline Systems. The company is responsible for ensuring that it follows the design, specifications, programs, manuals, procedures, measures and plans developed and implemented by the company in accordance with OPR-99.

2.2 Description of Facilities

The Project facilities include three sections of pipeline, approximately 14 Emergency Shut Down (ESD) valve assemblies, and pig sending and receiving facilities. The three pipeline sections have a cumulative route length of 91.7 km and a combined total pipe length of 92.7 km. The first section, referred to as the South Peace Pipeline, would be a 508.0 mm OD pipe, approximately 87.5 km in length, extending from a proposed producer receipt point at c-95-E/93-P-08 to the southern end of Westcoast's existing Peace River Crossing Pipeline, on the south side of the Peace River. The second section, referred to as the McMahon Tie-in Pipeline, would be a 508.0 mm OD pipe, approximately 4.2 km in length, extending from the northern end of the Peace River Crossing Pipeline, on the north side of the Peace River, to the existing McMahon Plant. The third section, a Liquids Handling Loop, would be a 508.0 mm OD pipe, approximately 1 km in length, and would be installed within a common trench with the McMahon Tie-in Pipeline, terminating at the McMahon Gas Plant. The pipeline would be designed to transport sour dehydrated natural gas having a maximum hydrogen sulphide (H_2S) content of five percent. The maximum operating pressure (MOP) of the proposed pipeline would be 9 930 kPa, with a capacity of $6\ 260.4\ 10^3\ m^3/d$ (221 MMcf/d).

2.3 Pipeline Design

Westcoast submitted that the applied-for facilities would be designed, constructed and tested in accordance with Canadian Standards Association Z662-07, Oil and Gas Pipeline Systems

(CSA Z662-07), OPR-99, the provisions of the NEB Act and all other applicable governing codes. Welding and testing would follow the requirements set out in OPR-99 and CSA Z662-07.

Sour Service

CSA Z662-07 establishes essential requirements and minimum standards for the design, materials, construction, operation, and maintenance of gas pipeline systems, with specific provisions for sour service pipelines. Westcoast has committed to following all applicable provisions within the standard

Emergency Shutdown Valves

ESD valve sites will be located along the pipeline, and operated as required under CSA Z662-07 to minimize the release of gas in the event of a pipeline failure. Westcoast's proposed spacing of the ESD valves for the Project will be more stringent than required by CSA Z662-07. The exact location of these valves will be determined through continued landowner negotiation and development of the Emergency Planning Zones (EPZs) and the Emergency Response Plan (ERP) for the Project

The quantity of gas which could be released in a worst case scenario is used to calculate the EPZ for each segment of the pipeline between the ESD valves. Valve placement is a factor in determining the size and location of the EPZ and, consequently, influences the scope of the ERP. Each ESD valve site will include an ESD valve and actuator, and associated Supervisory Control and Data Acquisition (SCADA) equipment.

Construction Safety

Westcoast indicated that individual contractor Environmental Health and Safety plans will be approved by Westcoast for the Project and that contractors would be pre-qualified. These plans would address safety requirements, responsibilities and lines of communication during construction and commissioning.

2.4 Pipeline Operation

Westcoast has programs in place to manage the safe operation and long-term integrity of its existing facilities. Westcoast proposes to expand these programs to include this Project. The proposed pipeline and facilities will have specific integrity management plans to ensure the integrity of the pipeline and facilities are maintained throughout their service lives. Internal inspection is an integral part of Westcoast's current Integrity Management Plan (IMP) for the pipeline.

Westcoast monitors the corrosion and condition of its pipelines to identify areas of reduced integrity and a regular monitoring schedule will be developed for the Project. Such monitoring is typically performed by way of routine or planned inspections and includes non-destruction examination (ultrasonic detection, x-rays) on sections of the pipeline. Westcoast indicated that it retains qualified personnel to perform inspections.

Westcoast has a Pipeline Operations and Maintenance Manual. The manual is a collection of documents that outlines the instructions and requirements for maintaining Westcoast's BC Pipeline and Field Services pipeline assets. The purpose of these documents is to ensure that a safe and functional pipeline system is maintained. The information in these documents is also used as a guide for the requirements of certain design and construction functions on new and existing installations.

Westcoast conducts periodic patrols of its facilities. The pipeline patrols cover gas transmission and associated gas handling facilities outside operating compressor stations, valve sites and process plants. All pipeline patrols are conducted by personnel familiar with the location and operation of the facilities. Westcoast will perform periodic aerial surveys and on the ground inspections to detect any changes to the condition of the pipeline and facilities, as committed to in their application and as required by OPR-99, and will address identified problems that pose a risk to the integrity of the pipeline.

Westcoast will have the ability to monitor and control its proposed facilities from the control room in Fort St. John, BC. The control room will be staffed 24 hours per day, 7 days per week. The data obtained by Westcoast's SCADA system will be used to evaluate the performance of the facilities and related equipment. Westcoast has committed to the valves being closed automatically if the pressure upstream or downstream of the valve is at or below the low pressure set point or the pressure rate of change across the valve is at or above the specified set point. Each ESD valve site will be capable of on-site opening and both manual/automatic and on-site/remote closing.

Westcoast's commitment to compliance with CSA Z662-07 includes compliance with the Leak Detection for Gas Pipeline Systems clause of the standard. Specifically, Westcoast has identified that a product release that triggers the automatic response of any of the ESDs will fully engage Westcoast's ERP.

Emergency Preparedness and Response

Westcoast has a comprehensive Emergency Management Plan that uses an all-hazard approach to emergency planning and response. The Emergency Management Plan includes the ERPs for each of Westcoast's operating areas. The Emergency Management Plan is updated annually and filed with the Board.

Westcoast indicated that emergency response planning for the Project will be incorporated into Westcoast's existing ERP for the Fort St. John gathering system. Annual updates of the ERP will be completed, and the ERP will be provided to and reviewed with all first responders who provide support in the event of a pipeline emergency. These amendments would include modeling of the EPZ, as well as site-specific emergency response measures for the Project.

Westcoast indicated the EPZ for the Project has been calculated using the plume dispersion modeling program (model ERCBH2S) for sour gas pipelines set out in Alberta Energy Resources Conservation Board (ERCB) Directive 071. The EPZ defines the area within which Westcoast performs various consultation matters, including continuing education and awareness programs regarding pipeline safety and emergency preparedness. The EPZ also delineates the area within

which the detailed procedures outlined in Westcoast's ERP for notification and evacuation will be carried out

Pipeline Security

Westcoast has developed an Operations Security Plan to help ensure the safety of the public and its employees and facilities by maintaining the security of its facilities. Westcoast indicated that the South Peace Project would be incorporated into the Operations Security Plan.

Views of the Kiskatinaw Pipeline Landowners Association (KPLA)

KPLA, representing certain area landowners, expressed concern over the hazards associated with a sour gas pipeline operating in their area. In particular, KPLA expressed concerns regarding potential leaks and ruptures, safety issues associated with the high H₂S content of the gas to be transported, and emergency and safety measures for the Parkland School.

Views of Westcoast

Westcoast stated that the Parkland School is currently less than 500 m from the boundary of the EPZ for the Project. Westcoast also stated that it is in discussions with landowners regarding the placement of a line break valve in an effort to remove the Parkland School from the EPZ altogether. Westcoast committed to providing the Board with an amended EPZ for the Project if changes occur to the placement of line break valves based on negotiations with landowners.

Westcoast also commits, through its Continuing Education Program, to provide public awareness and education for those landowners, residents and businesses that may be affected by a release of product from the South Peace Pipeline. Prior to start up, Westcoast would visit all landowners, residents and businesses located in the EPZ (including those who may need to travel through the EPZ to evacuate). Information would be provided on how to recognize a pipeline incident, what individuals should do in the event of a pipeline leak or rupture, how to notify first responders and Westcoast and what they should do until the responders arrive. These public awareness visits would continue as part of Westcoast's ongoing Continuing Education Program after the facilities are placed in service.

Views of the Board

With regard to construction safety, the Board notes that Westcoast would be required to file its Environment Health and Safety plans with the Board for review in accordance with OPR-99 and, through its construction oversight, the Board would verify compliance with these plans.

The Board finds that Westcoast's proposal for maintaining the integrity of the facilities meets the requirements of OPR-99 and CSA Z662-07. The Board notes that the Project involves work in which Westcoast has demonstrated having significant experience under similar design and operating conditions.

The Board is satisfied that Westcoast's Operations Security Plan is in compliance with OPR-99, including Proposed Regulatory Change 2006-01, which outlines the Board's expectations for a Pipeline Security Management Program.

The Board notes Westcoast's commitment to modify its existing ERP to incorporate the Project and that this amendment must be submitted to the Board as per OPR-99, section 32. The Board also notes Westcoast's commitment to provide the Board with an amended EPZ for the Project if changes occur to the placement of line break valves based on negotiations with landowners. The Board reminds Westcoast that any amendments to the EPZ would not alter the Board's expectations for ensuring public safety within and adjacent to the EPZ defined for the Project, as would be outlined in Westcoast's Emergency Management Plans.

Westcoast will be required to obtain Leave to Open in accordance with section 47 of the NEB Act before the constructed and tested facilities commence operation. The Board will assess the status of Westcoast's project compliance and capability of operating in accordance with the commitments made and imposed on Westcoast in determining whether Leave to Open would be granted. Westcoast will be required to file with the Board, at least 21 days prior to requesting Leave to Open, information regarding its ongoing compliance with Part 9 of OPR-99 with respect to the Project. This will include the following information: a schedule of the audits and inspections required by Part 9; non-compliances identified in those audits and inspections that have been completed to date; corrective action planned and taken with respect to the identified non-compliances; results of the above-referenced corrective action; and an assessment as to the capability of the programs audited and inspected to support the contention that the facilities will be operated in a safe and secure fashion.

The Board finds that, with the implementation of the design, construction, inspection and maintenance programs, mitigative measures and procedures outlined in the application and subsequent filings, along with the Certificate conditions included in Appendix II of these Reasons, the potential risks to public safety and security associated with construction and operation of the sour gas facilities would be appropriately minimized.

Chapter 3

Public Consultation

3.1 Description of Public Consultation

The NEB promotes the undertaking by regulated companies of an appropriate level of public involvement, commensurate with the setting, nature and magnitude of each project. This recognizes that public involvement is a fundamental component during each phase in the lifecycle of a project (i.e., project design, construction, operation and maintenance, and abandonment) in order to address potential impacts.

3.2 Westcoast's Public Consultation Program

In its application, Westcoast submitted that it recognizes the importance of working with all potentially affected persons or groups during all phases of the Project, and that consultation activities for the Project have been and will continue to be conducted on the basis of the principles set out in Westcoast's charter. The stated principles and goals of Westcoast's public consultation program were to:

- identify stakeholders in the Project area who could potentially be affected by the Project as soon as possible in the planning phase;
- inform potential stakeholders throughout the various phases of the Project by sharing information on key project specifics in a clear and timely manner;
- create opportunities for meaningful input and advise stakeholders of their opportunities to communicate with the Board;
- understand and respond to any issues or concerns in an effort to ensure those issues or concerns are resolved or mitigated; and
- maintain ongoing communications with stakeholders throughout the construction phase with a view to developing the long-term relationships required for the operation of the facilities.

Westcoast submitted that the consultation program for the Project was based on an assessment of the Project scope and a review of local and regional interests in the Project area. Potential stakeholders were determined based on the location, length and the amount of private and public lands the Project would cross, as well as potential project impacts and mitigation measures available to address those impacts.

The stakeholders identified through the assessment process included but were not limited to:

- landowners and local residents;
- resource tenure holders including trappers, guide outfitters and forest tenure holders;

- local, provincial and federal government bodies;
- local and regional service providers; and
- other interested parties including Custodians of the Peace, the Paradise Valley Snowmobile Club and Parkland School Parent Advisory.

Aboriginal matters, including consultation with potentially affected Aboriginal groups, are discussed in Chapter 4.

Beginning in summer 2007, various methods were used by Westcoast to provide information on the Project to interested and affected parties. These included personal meetings, mail-out packages, discussions via letter, e-mail and telephone, public notice and advertisements in local newspapers, and open house meetings.

Westcoast submitted that it is committed to addressing any future issues or concerns that may arise through its ongoing consultation.

3.2.1 Consultation with Landowners

Views of the Kiskatinaw Pipeline Landowners Association (KPLA)

The KPLA raised a concern regarding information provided to landowners about the effects of H₂S. Specifically, the KPLA asserted that landowners need more information about H₂S in order to address and respond to the ways in which H₂S affects their lifestyle as landowners, including the stresses involved in living adjacent to a sour gas pipeline.

Views of Westcoast

Westcoast submitted that it has a thorough process for providing information and updates to all landowners. Westcoast also submitted that it has a formalized Continuing Education Program, which provides public awareness and education for those landowners, residents and businesses that may be affected by a release of product from the pipeline. Westcoast confirmed that prior to start up, it will visit all landowners, residents and businesses located in the EPZ, including those who may need to travel through the EPZ to evacuate. Westcoast further confirmed that information will be provided on how to recognize a pipeline incident, what individuals should do in the event of a pipeline leak or rupture, how to notify first responders and Westcoast, and what they should do until the responders arrive. Finally, Westcoast submitted that it will collect key information from each occupancy in the EPZ and that this will be entered into Westcoast's internal geographic information system for use in notification during emergency situations.

Views of the Board

The Board acknowledges Westcoast's commitment to continuing public consultation throughout the life of the Project. The Board is of the view that Westcoast appropriately engaged potentially affected stakeholders, including landowners, municipalities, land users, non-government organizations and federal and provincial government departments. The

Board's assessment of consultation with Aboriginal peoples is discussed in Chapter 4, Aboriginal Matters.

With respect to consultation with potentially affected landowners and residents, in particular, the Board notes the communication tools and programs that Westcoast has established for the Project, including its Continuing Education Program, and the roles these will play in providing ongoing information about Project construction and operations to potentially affected stakeholders.

The Board is of the view that the design and implementation of the Applicant's consultation program is appropriate given the setting, nature and magnitude of the project.

With respect to the concerns raised by the KPLA, the Board expects Westcoast to provide ongoing and appropriate information and updates to members of the KPLA and any interested landowners or residents regarding Westcoast's programs to address issues associated with H₂S.

Chapter 4

Aboriginal Matters

4.1 Description of Aboriginal Matters

It is the practice of the Board to take Aboriginal interests and concerns into consideration before it makes any decision that could have an impact on those interests. In order to ensure that the Board has the necessary evidence before it in this respect, the Board's *Filing Manual* sets out the requisite elements of an application, requires applicants to consult with potentially impacted Aboriginal groups early on in their project planning, and requires that applications include detailed information on any issues or concerns raised by Aboriginal groups or that are otherwise identified by the Applicant.

4.1.1 Aboriginal Engagement by the Applicant

Consultation by the Applicant with Aboriginal groups was conducted in accordance with Westcoast's Aboriginal Consultation Approach, which lays out the key principles and goals for the company's consultation with Aboriginal people. Westcoast recognizes in its Approach that Aboriginal people have unique cultural and historical characteristics which must be acknowledged when developing project-specific consultation programs, and that its consultation approach supports both ongoing operations as well as construction and maintenance projects.

The goals of Westcoast's Aboriginal Consultation Approach are to:

- identify Aboriginal communities with traditional interests in the project area which could potentially be affected by the project as soon as possible in the planning phase of the project;
- inform potentially affected Aboriginal communities throughout the various phases of the project by sharing information on key project specifics in a clear and timely manner;
- create opportunities for meaningful input and advise the communities of opportunities to communicate with the NEB;
- understand and respond to any issues or concerns in an effort to ensure those issues or concerns are resolved or mitigated; and
- continue ongoing communications with the Aboriginal communities throughout the construction and post-construction phases with a view to maintaining and developing long-term relationships required for the operation of the facilities.

Westcoast identified Aboriginal communities to consult with based on an assessment of the Project location in relation to known traditional territories. After considering the scope of the Project, including the location, length and amount of private and public lands the Project would cross, as well as potential Project impacts and the mitigation measures available to address those

impacts, Westcoast identified the following Aboriginal communities as having a potential interest in the Project:

- Saulteau First Nations;
- West Moberly First Nations;
- Kelly Lake Cree Nation;
- Kelly Lake First Nation;
- Kelly Lake Métis Settlement Society;
- McLeod Lake Indian Band;
- Halfway River First Nation;
- Doig River First Nation;
- Blueberry River First Nations; and
- North East Métis Association.

Westcoast began consultation activities in July 2007 by notifying the West Moberly First Nations, Saulteau First Nations, McLeod Lake Indian Band, Kelly Lake Métis Settlement Society, Kelly Lake First Nations, Kelly Lake Cree Nation and North East Métis Association that Westcoast was studying the feasibility of constructing the Project. In November and December 2007, information packages were sent to Aboriginal groups stating that Westcoast was preparing an application to the Board, and requested any information or concerns that each Aboriginal community may have with respect to the Project. In December 2007, the Halfway River First Nation, Blueberry River First Nations and Doig River First Nation were added to the list of Aboriginal communities that could be potentially affected by or interested in the Project. The Preliminary Information Package for the Project, as submitted to the Board, was also sent to each of the above Aboriginal communities in December 2007. Westcoast also provided ongoing information about the Project, including copies of the Application, additional written evidence, and responses to information requests.

Consultation with Aboriginal communities involved a range of activities, including meetings and correspondence via e-mail or letters, in order to provide information, answer questions and address any issues pertaining to the Project. Westcoast focused its contact with those individuals recognized as responsible for consultations for their respective First Nations or community, with priority given to contacting Resource Officers, Land Managers and/or Chiefs and Councils.

Both an Archaeological Impact Assessment (AIA) and a Traditional Land Use (TLU) assessment with respect to lands crossed by the Project were undertaken. These assessments were conducted with the participation of seven Aboriginal communities who were identified as having shared traditional territories within the Project area, and who were invited and agreed to participate in the assessments. These were:

- Saulteau First Nations;
- West Moberly First Nations;

- Kelly Lake Cree Nation;
- Kelly Lake First Nations;
- Kelly Lake Métis Settlement Society;
- McLeod Lake Indian Band; and
- North East Métis Association.

The objectives of the TLU assessment were to inventory site-specific traditional land use sites within the proposed Project area, and to determine impact mitigation options in collaboration with representative members of the Aboriginal groups participating in the assessment. As per BC Heritage Inspection Permit 2007-357, the primary objectives of the AIA were met through a methodological strategy which included:

- undertaking a file search of previously recorded archaeology sites within 5000m of the proposed project, and conducting a desk-top study of archaeological potential within and adjacent to the proposed project area;
- discussing land use interests with Aboriginal communities and/or land owners in proximity to the proposed Project area;
- identifying and recording archaeological sites within or adjacent to the Project area;
- evaluating the significance of archaeological sites;
- recommending site-specific impact mitigation options based on site significance, planned and unplanned project disturbance factors and in consideration of the requests of participating Aboriginal communities; and,
- liaising with the BC Archaeology Branch to determine site-specific impact mitigation commitments.

In addition to identifying traditional use sites and recommending mitigation, the TLU assessment process provided a forum for addressing the potential concerns of Aboriginal communities. For example, as a result of activities undertaken during the TLU assessment, the Kelly Lake Métis Settlement Society confirmed that their concerns regarding the disturbance of potential burial sites had been addressed, as no burial sites were located within the Project footprint.

Views of Transport Canada

Transport Canada provided a Letter of Comment to the Board (dated 23 June 2008), in which it confirmed that it is a Responsible Authority for the Project on the basis that the proposed route may require authorizations for watercourse crossings under the *Navigable Waters Protection Act* and/or Section 108 of the *National Energy Board Act*. Transport Canada noted in its Letter that the need for these approvals required Transport Canada to consider the effects of any change in the environment on the current use of lands and resources for traditional purposes by Aboriginal peoples that were likely to result from issuing any such approvals. Transport Canada confirmed it would therefore contact potentially affected Aboriginal groups to obtain this information. Comments received from Aboriginal groups by Transport Canada are noted in the Environmental Screening Report.

Views of Westcoast

Westcoast committed to continue consultation activities throughout the life of the Project in order to ensure that issues are addressed and resolved, and that all stakeholders including Aboriginal communities remain informed and involved throughout the various phases of the Project. Westcoast further submitted that, as ongoing interests are identified, it would meet with the potentially affected Aboriginal community, identify possible impacts, and endeavour to mitigate those impacts.

Westcoast also committed to continuing specific consultation activities with potentially affected Aboriginal communities. Westcoast committed to discussing Access Management Plans with potentially affected Aboriginal groups, once these plans are completed, and to providing the Board with an update on these consultations at least 30 days prior to the commencement of construction activities. Westcoast further committed to continued consultations with those Aboriginal groups potentially impacted by the Project regarding their on-going interests, including discussions with the Kelly Lake Métis Settlement Society regarding their interests in the Kiskatinaw River. Westcoast committed to providing an update on these consultations to the Board at least 30 days prior to the commencement of construction activities.

4.1.2 Hearing Participation by Aboriginal People

Aboriginal people with an interest in a project are invited to participate in the hearing process to make the Board aware of their views and concerns. The Board makes efforts to provide information to Aboriginal people so that they can understand how to become involved in the regulatory process. In addition to the information provided to the Board via the Applicant, there are various ways for Aboriginal people to make their views known directly to the Board. This can include a letter of comment, oral statements, written evidence, oral testimony by elders and members of Aboriginal groups, cross-examination of the Applicant and other parties, and final argument.

On 12 March 2008, the Board hosted a procedural workshop in Dawson Creek, British Columbia (BC). The purpose of the workshop was to offer all parties information about Board processes to help them understand how the Board examines applications for pipelines and associated facilities and how parties can participate in these processes. The workshop also provided an opportunity for parties to ask procedural questions of Board staff. On 25 August 2008, the Board hosted an information session, again in Dawson Creek, BC. The purpose of the information session was to provide specific information on the Board's oral hearing process and to answer any questions parties might have regarding that process.

The Board granted the Saulteau First Nations late intervenor status in the proceeding; however, the Saulteau First Nations did not file evidence as an intervenor or participate in the hearing. No other Aboriginal groups registered as intervenors, provided letters of comment, or presented oral statements at the hearing.

4.1.3 Impacts of the Project on Aboriginal People

The AIA was conducted on both private and Crown lands along the pipeline route. Eighty five previously recorded archaeological sites are located within five km of the proposed Project area, with 19 of these located within 500 m of the Project. Eight previously unknown sites were discovered, and Westcoast committed to the recommended mitigation measures for each of these previously unknown sites outlined in the AIA.

Approximately 17.4 km of the proposed Project route is located within Crown lands. The Crown land crossed by the proposed Project route was subject to the fieldwork reconnaissance program for the TLU Assessment. A total of 269 traditional use sites were identified, with 76 of these recommended as requiring mitigative actions.

Aboriginal representatives participating in the TLU assessment expressed a general concern about the cumulative impacts to animal habitat and water resources in the Project area. The TLU assessment recommended that the avoidance of all chemicals (pesticides and herbicides) within and adjacent to the TLU sites requiring impact mitigation should be considered.

Westcoast submitted that it was not aware of any specific impacts on potentially affected Aboriginal communities resulting from the Project that are in addition to those issues already raised for further consultation, and confirmed that it commits to implementing all recommendations contained in its filings to the Board, which would include those contained in the TLU study and the AIA.

Views of the Board

The Board's process is designed to provide it with necessary information about Aboriginal concerns so that it may take these concerns into consideration before it renders a decision. The Board requires applicants to take all reasonable steps to identify and contact Aboriginal people in the area of the proposed project prior to the filing of their applications. This is intended to ensure that potentially affected Aboriginal people have relevant information about the project and can be provided with an opportunity to discuss their concerns and issues with the applicant in the early planning stages of the project. Through these early discussions, an applicant can often fully or partially address the concerns of the Aboriginal people or modify the project in response to such concerns. An applicant is required to file with its application evidence related to its discussions with potentially affected Aboriginal people as well as details of the issues or concerns raised, discussed and, where applicable, resolved. The Board will typically require further information and updates from an applicant. Aboriginal groups with unresolved concerns are encouraged to make their views known to the Board through some form of participation in the hearing. The Board takes all of the evidence about Aboriginal rights and interests into consideration as part of its assessment of the project impacts and determination of whether the project is in the public interest.

The Board notes that Westcoast identified potentially affected Aboriginal groups based on the location of the Project in relation to known traditional territories. Consultation with Aboriginal people began in July 2007 and has been ongoing since that time.

The Board is of the view that those Aboriginal people with an interest in the Project were provided with the details of the Project and were given the opportunity to make their views known to Westcoast and the Board in a timely manner so that they could be factored into the decision-making process.

Further, the Board is of the view that Westcoast's consultation program was effective in identifying potential impacts of the Project on Aboriginal people. The Board notes Westcoast's commitment to implement recommended measures to mitigate potential impacts on traditional land use and archaeological sites, which were developed with the participation of potentially affected Aboriginal communities. The Board also notes Westcoast's commitment to ongoing consultation with Aboriginal groups with a view to identifying and resolving any issues or concerns arising from the Project. The Board is of the view that such ongoing discussions between Westcoast and Aboriginal people, coupled with the mitigation measure identified in the TLU Assessment, would minimize potential impacts on traditional use sites if encountered.

With regard to archaeological resources, the Board would include a condition that directs Westcoast to file with the Board, at least 30 days prior to the planned commencement of construction activities, copies of correspondence from the BC Archaeology Branch regarding the acceptability of Westcoast's archaeological and heritage resource impact assessment reports and proposed mitigation measures, and a statement of whether Westcoast intends to implement the recommendations contained in the correspondence.

All known environmental effects and those socio-economic effects covered by the CEA Act are assessed in the Board's ESR, including effects on current traditional uses by Aboriginal people, wildlife, fish, vegetation and water resources. The Project would involve a relatively brief window of construction, with the vast majority of the facilities being buried. A significant portion of the lands required for the Project are privately owned and previously disturbed. As noted in the ESR, with the implementation of Westcoast's environmental protection procedures and mitigation measures, and the imposition of identified conditions, the Project is not likely to cause significant adverse environmental effects.

The Board is of the view that impacts on Aboriginal interests are likely to be minimal, and that potential Project impacts on Aboriginal interests will be appropriately mitigated.

Chapter 5

Routing and Land Matters

5.1 Description of Routing and Land Matters

The Board requires applicants to provide a description and rationale for the permanent and temporary lands acquisitions required for a project in order to assess the extent to which new lands may be affected by a project. In addition, applicants are required to advise the Board if they intend to use existing land rights, or if there are areas where new land rights would be required.

The Board also requires a description of the land acquisition process as well as the status of land acquisition activities. This provides the Board with information regarding the company's planned timing of acquisition. Applicants are also required to provide the Board with a copy of the notice provided to landowners pursuant to subsection 87(1) of the NEB Act as well as a copy of the form of the land acquisition agreement.

5.1.1 Routing

As fully detailed in the Board's ESR, selection of the proposed pipeline route for the South Peace Pipeline involved the evaluation of many factors including stakeholder/landowner concerns, utilizing stable watercourse crossings, avoiding important wildlife and plant species and habitat, maintaining separation from dwellings and structures, minimizing the length of the pipeline, reducing the creation of new corridors, reducing clearing requirements by sharing or overlapping rights of way (RoWs), and schedule impacts.

The routing of the South Peace Pipeline will start southwest of Dawson Creek, BC at c-95-E/93-P-08 and travel north to SW1/4 04-082-17W6M where it will tie in to the upstream end of the existing Peace River Crossing Pipeline. Approximately 80 percent of this segment of pipeline is located on privately owned land and the remainder is located on Crown land.

The McMahon Tie-in Pipeline will be located entirely within the District of Taylor and will start at NE1/4 31-082-17W6M and end at the southeast side of the McMahon Plant at NE1/4 25-082-18W6M. The Liquids Handling Loop will be installed in a common trench with the McMahon Tie-in Pipeline. These segments of pipeline will be located entirely on private land.

The Project route will parallel existing RoWs to the extent reasonably possible. Existing RoWs include RoWs developed for pipelines and all-season provincial roads. Approximately 68 km of new RoW (i.e. RoW that is not alongside and contiguous to existing RoW) will be required for the Project.

5.1.2 Land Requirements

To accommodate the construction of the Project, new permanent RoW and temporary working space will be required. On the private land portions of the Project, a permanent 18 m RoW will be acquired from private landowners with an additional 7 m taken as temporary working space. In addition, working space will be required at road, pipeline and water course crossings. There are 54 landowners requiring agreements with respect to 89 different parcels of land.

On Crown land, a permanent 25 m RoW will be acquired along with 30 m by 40 m log deck sites located approximately 1 km apart along the pipeline in forested areas. Additional working space will also be required at road, pipeline and water course crossings.

5.1.3 Land Acquisition Process

The process for obtaining new RoW and temporary workspace from the Crown is by application to the provincial Integrated Land Management Bureau (ILMB). The ILMB provides all documents for the new RoW and temporary working space. Westcoast indicated that on private property, land acquisition agreements will be negotiated with private landowners or a right of entry will be required from the Board.

Westcoast commenced its land acquisition activities in July 2007 by obtaining title searches, line lists and survey permissions. In January 2008, Westcoast conducted a real estate market analysis of land values in the area of the Project and, in February 2008, began service of section 87(1) notices on landowners and interested parties. Westcoast commenced negotiations for the acquisition of easement rights, working space and land permits with landowners in March 2008.

Westcoast submitted copies of its form of section 87(1) notice as well as its land acquisition agreement to the Board.

Views of the Board

The Board is of the view that the route evaluation criteria applied by Westcoast has been selected with the intent to minimize potential adverse effects on people and the environment, minimize construction and operation issues, and parallel existing RoWs to the extent reasonably possible.

The Board finds that Westcoast's anticipated requirements for permanent and temporary land rights are reasonable. The lands rights documentation and acquisition process proposed by Westcoast are also acceptable to the Board.

Chapter 6

Environment and Socio-Economic Matters

The Board considers environmental and socio-economic matters under both the CEA Act and the NEB Act. The Board expects applicants to identify and consider the effects a project may have on bio-physical and socio-economic elements, the mitigation to reduce those effects, the significance of any residual effects once the mitigation has been applied and enhancements of project benefits.

This chapter provides a description of the environmental assessment process used by the Board for the Project. It also addresses the socio-economic issues that are not evaluated in the CEA Act ESR.

6.1 Environmental Screening Process

The Project would require a Certificate of Public Convenience and Necessity under section 52 of the NEB Act and thus, triggered the requirement for an environmental assessment under the CEA Act. Since the Project would not require more than 75 km of new RoW, as defined in the CEA Act *Comprehensive Study List Regulations*, the Project was subjected to a screening level of environmental assessment under the CEA Act.

Pursuant to the CEA Act *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements* (Federal Coordination Regulations), the Board coordinated Responsible Authority (RA) and Federal Authority (FA) involvement in the CEA Act process. To reduce potential duplication, the Board and other RAs worked together to create a screening process intended to meet the needs of all RAs in carrying out their environmental assessment responsibilities.

Following the oral portion of the hearing, the Board issued a draft ESR on 25 September 2008 for public review and comment. The Board received comments from Transport Canada, Fisheries and Oceans Canada, KPLA, and Edward and Gwenda Henderson. Transport Canada's submission included correspondence from the Kelly Lake Cree First Nation. Westcoast subsequently replied to the comments that were provided.

The ESR reflects parties' comments and the Board's assessment of the bio-physical and socio-economic effects of the Project and mitigation measures based on the Project description, factors to be considered, and the scope of those factors. The ESR also includes recommendations for conditions to be included in any Board regulatory approvals.

Views of the Board

With respect to its regulatory decision under the NEB Act, the Board has considered the CEA Act ESR and the recommendations included therein.

The Board determined in the ESR that, with the implementation of *Westcoast*'s environmental protection procedures and mitigation measures and the Board's recommendations, the proposed Project is not likely to cause significant adverse environmental effects. The Board would incorporate the recommendations set out in Section 9.7 of the ESR into a certificate.

Details regarding the Board's assessment of the environmental and socio-economic effects evaluated pursuant the CEA Act are provided in the ESR, included as Appendix III of these Reasons.

6.2 Socio-Economic Matters

The Board expects companies to identify and consider the impacts a project may have on socio-economic conditions including the mitigation of negative impacts and the enhancement of project benefits.

Potential socio-economic effects covered by the CEA Act are included in the ESR. The CEA Act contemplates indirect socio-economic effects caused by a change to the environment as a result of the Project. Direct socio-economic effects caused by the existence of the Project itself are assessed under the NEB Act and are discussed below. Other economic effects are addressed in Chapter 7.

6.2.1 Infrastructure

Westcoast submitted that increased traffic on highways and local roads used to access the proposed RoW will occur during construction for the Project, and that the Project will act cumulatively with existing local traffic and traffic resulting from other proposed projects in the area.

Westcoast committed to work with local and regional authorities to ensure that effects on traffic along public roads are minimized, and to ensure appropriate public safety measures are provided through the development of a Public Traffic Control Plan.

6.2.2 Services

Westcoast submitted that the total construction workforce for the Project is expected to average 200 persons, with a peak of 400 persons, and that workers will be accommodated in local temporary accommodations (hotels, motels, rental housing or existing open construction camps) in or near Dawson Creek, Taylor and Fort St. John.

In order to minimize disturbance to local communities and services during construction activities, Westcoast submitted a Worker Code of Conduct that outlines company expectations for the conduct of Project employees and contractors. Westcoast committed to making its Code of Conduct available to appropriate local officials during construction.

Westcoast also committed to communicating any changes in accommodation planning with local communities and the Board by way of a Project Accommodation Plan.

Views of the Board

The Board notes Westcoast's commitment to completing and submitting plans to address potential socio-economic effects of the Project, including a Public Traffic Control Plan to address traffic safety and management on public roads for the Project and, if changes in accommodation planning are required, a Project Accommodation Plan.

In light of Westcoast's commitment to providing the above-noted plans, the Board finds that the Project's impacts on infrastructure and services will be adequately addressed.

Chapter 7

Financial Regulation and Economic Feasibility

7.1 Financial Regulation

The Project would be regulated according to the Framework for Light-Handed Regulation (Framework) developed for Westcoast's gathering and processing system as approved by the Board on 25 June 1998 by order TG-4-98. Under the Framework, Westcoast is responsible for the utilization of its gathering and processing facilities and negotiates tolls and tariffs with its shippers. As such, financial, toll and tariff matters would be dealt with by the Board on a complaint basis.

Westcoast stated that service agreements have been negotiated with certain producers (the Initial Shippers) for raw gas transmission service through the proposed facilities and for processing service at the McMahon Plant. The service agreements with the Initial Shippers, one of them being EnCana Corporation (EnCana), have been negotiated pursuant to the Framework and have been executed by all parties.

Views of the Board

The Board is satisfied that the method of regulation outlined in the Framework sufficiently addresses the issues of tolls and tariffs.

The Board finds that, under the Framework for Light-Handed Regulation, the Project is a commercially at risk pipeline and therefore any demand charges would be paid either by shippers or Westcoast's shareholders.

7.2 Description of Economic Feasibility

In making its determination on the justification for and economic feasibility of a proposed pipeline project, the Board assesses whether the facilities are needed and would be used at a reasonable level over their expected economic life. In order to make this determination, the Board considers the evidence submitted on the supply of natural gas that will be available to be shipped on the pipeline, the availability of adequate markets to receive natural gas delivered by the pipeline and the adequacy of existing pipeline capacity. As well, the Board considers evidence related to financing the construction and ongoing operations of the proposed pipeline.

7.2.1 Supply and Transportation

Views of Westcoast

According to Westcoast, the Project would enable the Initial Shippers and other area producers to transport currently unconnected and future gas reserves to the McMahon Plant for processing. The Project would have a potential supply area that includes the British Columbia portion of the

Deep Basin and the southern portion of the Fort St. John Southern Plains². Proven gas reserves within the potential supply basin include reservoirs from the Lower and Middle Triassic Montney and Doig formations, the Halfway and Charlie Lake Formations, the Cadomin Formation and the Falher and Cadotte Members of the Spirit River and Peace River Formations.

Westcoast estimated the proved reserves for the potential supply basin to contain $56,593 \text{ } 10^6 \text{ m}^3$ (2,009 Bcf) of marketable gas. Westcoast further provided a deliverability forecast for the initial gas supplies to be connected to the proposed facilities which indicates an initial rate of $2,820 \text{ } 10^3 \text{ m}^3/\text{d}$ (100 MMcf/d) that would increase to a peak of $6,204 \text{ } 10^3 \text{ m}^3/\text{d}$ (221 MMcf/d) and then decline to $4,794 \text{ } 10^3 \text{ m}^3/\text{d}$ (179 MMcf/d) by year 15. In addition, Westcoast provided an estimate of the deliverability for the projects potential supply area that indicated a minimum deliverability of $11,671 \text{ } 10^3 \text{ m}^3/\text{d}$ (414 MMcf/d) throughout the 15 year forecast period.

As further evidence of supply for the project, Westcoast referenced a study undertaken jointly by the Board and the British Columbia Government³ which estimated that the ultimate potential conventional gas in the potential supply area for the South Peace Pipeline to be $201,096 \text{ } 10^6 \text{ m}^3$ (7,138 Bcf).

Westcoast provided evidence that it has executed service agreements with the Initial Shippers for the transportation of gas on the Project. The total contract volume with the Initial Shippers reaches $6,260.4 \text{ } 10^3 \text{ m}^3/\text{d}$ (221 MMscf/d) by 2012 (Table 7-1) and this represents full contracting of Westcoast's stated capability of the Project. For the five year period ending 2014, the initial Shippers have, on average, contracted for 94 percent of the Projects capability. The agreements with each Initial Shipper have different terms and volume commitment profiles. Westcoast has stated that the Initial Shipper contracted volumes decline through to 2028 after 2014 but declined to disclose the exact number of Initial Shippers or specific contract volumes after 2014 on the grounds that the information is confidential and commercially sensitive.

**Table 7-1
Maximum Contract Level**

Year	Maximum Contract Level
2009	$2,832.7 \text{ } 10^3 \text{ m}^3/\text{d}$ (100 MMscf/d)
2010	$5,541.2 \text{ } 10^3 \text{ m}^3/\text{d}$ (196 MMscf/d)
2011	$5,932.2 \text{ } 10^3 \text{ m}^3/\text{d}$ (209 MMscf/d)
2012	$6,260.4 \text{ } 10^3 \text{ m}^3/\text{d}$ (221 MMscf/d)
2013	$6,260.4 \text{ } 10^3 \text{ m}^3/\text{d}$ (221 MMscf/d)
2014	$5,436.2 \text{ } 10^3 \text{ m}^3/\text{d}$ (192 MMscf/d)

2 Deep Basin and Ft. St. John Southern Plains are geographical regions used in the Northeast British Columbia's Ultimate Potential for Conventional Natural Gas, National Energy Board & BC Ministry of Energy, Mines and Petroleum Resources, Report 2006-A, March 2007. Study.

3 Northeast British Columbia's Ultimate Potential for Conventional Natural Gas, National Energy Board & BC Ministry of Energy, Mines and Petroleum Resources, Report 2006-A, March 2007.

Views of Other Parties

EnCana indicated that it supports the application. EnCana stated that it has growing gas production in the area to be served by the Project and that it has contracted for service on the proposed pipeline and at the McMahon plant. EnCana submitted that the Project is important to EnCana's plans to develop its gas resources.

7.2.2 Markets

Views of Westcoast

The gas to be transported on the Project would be transported to the McMahon Plant for processing. From the McMahon Plant, gas would be able to flow into Westcoast's mainline transmission pipeline for transport to markets in Alberta, British Columbia and to markets in the Pacific Northwest region of the United States. Westcoast provided a summary of the processing capabilities at the McMahon Plant and submitted that the Plant has sufficient available capacity to process the contract volumes of the Initial Shippers. Westcoast noted that the gas supply being connected by the Project would represent a new source of supply to the McMahon Plant and that it would help to offset production declines from other areas currently supplying the McMahon Plant and would help increase the long term utilization of the Westcoast system.

Once delivered into the Westcoast mainline it is anticipated that current and projected North American demand will absorb the additional gas supply. In this regard, Westcoast provided an estimate that growth in North American natural gas demand is expected to continue and that the British Columbia and Pacific Northwest markets traditionally served by Westcoast are expected to experience natural gas demand growth of 1.2 percent annually through 2015.

7.2.3 Commercial Third Parties

Views of Westcoast

Westcoast stated that the service agreements with the Initial Shippers for raw gas transmission service through the South Peace Pipeline and for treatment services at the McMahon Plant were negotiated pursuant to Westcoast's Framework for Light-Handed Regulation which applies to Westcoast's gathering (Zone 1) and processing (Zone2) facilities. Furthermore, Westcoast submitted that the service agreements and the proposed facilities would not affect the tolls payable or the services received by other shippers since these zones are not tolled on a cost-of-service basis.

Westcoast indicated that the Project has been discussed with the McMahon Plant shippers through the Area Operating Committee for the Fort St. John resource area. According to Westcoast, no concerns about the Project have been raised by the users of Westcoast's downstream facilities apart from general discussions regarding the tightening availability of processing capacity at the McMahon Plant.

7.2.4 Financing

Westcoast estimated the total capital cost of the applied-for facilities at \$95 million which would be financed from internally generated funds.

Views of the Board

Supply and Transportation

The Board is satisfied that overall there is adequate gas supply to support the Project. In addition, Westcoast has demonstrated it has executed contracts for a significant amount of the available capacity during the first six years of operation. In regard to both gas supply and transportation, the Board notes that, under the Framework, the Project is commercially at risk, which provides a strong economic incentive to the applicant to ensure the pipeline is utilized at a high level throughout its economic life.

Markets

The Board is satisfied that evidence supplied by the applicant and the existence of executed contracts with the initial Shippers demonstrates that downstream capacity and markets exist for the incremental gas that will be available as a result of the Project.

Commercial Third Parties

The Board is satisfied with the extent to which Westcoast has given notice of the Project to the current users of its downstream facilities.

Financing

The Board is satisfied that Westcoast has the ability to finance the proposed facilities.

The Board has considered the evidence on the record in the above matters and determined that the applied-for facilities are needed, that they will be used at a reasonable level over their economic life and that the pipeline is economically feasible.

Chapter 8

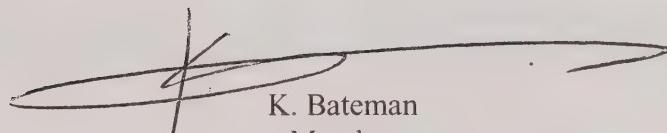
Disposition

The foregoing constitutes our Reasons for Decision in respect of the application considered by the Board in the GH-3-2008 proceeding.

Having made its determination under the CEA Act, the Board approves Westcoast's application, pursuant to section 52 of the Act, and will recommend to the Governor in Council that a Certificate be issued, subject to the Certificate conditions set out in Appendix II.



R.R. George
Presiding Member



K. Bateman
Member



D. Hamilton
Member

Calgary, Alberta
November 2008

Appendix I

List of Issues

1. The need for the proposed Project.
2. The economic feasibility of the proposed Project.
3. The potential commercial impacts of the proposed Project.
4. The potential environmental and socio-economic effects of the proposed Project, including those factors outlined in subsection 16(1) of the *Canadian Environmental Assessment Act*.
5. Impacts of the Project on Aboriginal people.
6. The appropriateness of the general route of the proposed pipeline segments.
7. The suitability of the design of the proposed Project.
8. Safety considerations related to sour natural gas.
9. The terms and conditions to be included in any approval the Board may issue.

Appendix II

Certificate Conditions

For the purposes of all of the conditions, “commencement of construction” includes the clearing of vegetation, ground-breaking and other forms of right of way preparation that may have an effect on the environment, but does not include activities associated with normal surveying operations.

General Conditions

1. Westcoast shall comply with all of the conditions contained in this Certificate unless the Board directs otherwise.
2. Westcoast shall cause the approved Project to be designed, located, constructed, installed, and operated in accordance with the specifications, standards and other information referred to in its application or as otherwise agreed to during questioning or in its related submissions.
3. Westcoast shall implement or cause to be implemented all of the policies, practices, programs, mitigation measures, recommendations and procedures for the protection of the environment included in or referred to in its application or as otherwise agreed to during questioning or in its related submissions.
4. Westcoast shall, for audit purposes, create and maintain records to chronologically track landowner complaints related to the Project. The landowner complaint records shall include:
 - a) the date the complaint was received from the landowner;
 - b) how the complaint was received (i.e. telephone, mail, email etc.);
 - c) subsequent dates of all telephone calls, visits, correspondence, and site monitoring/inspections, reports, etc.;
 - d) updated contact information for all parties involved in the complaint;
 - e) detailed description of complaint;
 - f) date of resolution of complaint; and
 - g) if no resolution, further actions to be taken (if any).

Prior to Construction Activities

5. Westcoast shall file with the Board for approval, at least 45 days prior to commencement of construction, an updated Project-specific Environmental Protection Plan (EPP). The

EPP shall describe all environmental and socio-economic protection procedures, and mitigation and monitoring commitments, as set out in the application or as otherwise agreed to during questioning, in its related submissions or through consultations with other government agencies. A cover letter shall be submitted with the EPP which provides a summary of consultation that has taken place with government agencies regarding the included mitigation. Construction shall not commence until Westcoast has received approval of its EPP from the Board.

6. Westcoast shall file with the Board an Archaeological Impact Assessment report for the approximately 4.5 km of the Project right of way not included in Final Permit Report 2007-357, at least 30 days prior to the planned commencement of construction activities within any portion of the identified 4.5 km Project right of way. This report shall include the mitigation measures Westcoast proposes to address any identified impacts.
7. Westcoast shall file with the Board, at least 30 days prior to the planned commencement of construction activities:
 - a) copies of correspondence from the BC Archaeology Branch regarding the acceptability of Westcoast's archaeological and heritage resource impact assessment reports and proposed mitigation measures; and
 - b) a statement on how Westcoast intends to implement the recommendations contained in (a).
8. Westcoast shall:
 - a) file with the Board and post on its Company website, at least seven days before the planned start of construction, a table listing all commitments made by Westcoast during the GH-3-2008 proceeding related to the Project, conditions imposed by the NEB and the deadlines associated with each; and
 - b) update the status of the commitments in (a) at least on a monthly basis throughout the construction and operation of the Project, and maintain the updated table on its Company website.

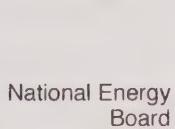
Post-Construction Activities

9. Westcoast shall file with the Board, at least 21 days prior to requesting Leave to Open, information regarding its ongoing compliance with Part 9 of the *Onshore Pipeline Regulations-1999* (OPR-99) with respect to this Project. This shall include:
 - a schedule of the audits and inspections required by OPR-99 Part 9, including those that have occurred in the year preceding the Leave to Open request, and those scheduled subsequent to the Leave to Open request;
 - non-compliances identified in those audits and inspections referred to above that have been completed to date;

- corrective action planned and taken with respect to the non-compliances identified in those audits and inspections that have been completed to date;
 - results of above-referenced corrective action; and
 - an assessment as to the capability of the programs audited and inspected to support the contention that the facilities will be operated in a safe and secure fashion.
10. No later than 30 days after the approved Project is placed in service, Westcoast shall file with the Board a confirmation, by an officer of the Company, that the approved Project was completed and constructed in compliance with all applicable conditions in this Certificate. If compliance with any of these conditions cannot be confirmed, the officer of the Company shall file with the Board details as to why compliance cannot be confirmed. The filing required by this condition shall include a statement confirming that the signatory to the filing is an officer of the Company.
11. Unless the Board otherwise directs prior to 31 December 2009, this Certificate shall expire on 31 December 2009, unless construction in respect of the Project has commenced by that date.

Appendix III

Environmental Screening Report



Office national
de l'énergie

ENVIRONMENTAL SCREENING REPORT

Pursuant to the *Canadian Environmental Assessment Act (CEA Act)*

SOUTH PEACE PIPELINE PROJECT

Applicant:	Westcoast Energy Inc., carrying on business as Spectra Energy Transmission		
Application Date:	27 February 2008 (Preliminary Information Package: 13 December 2007)	CEA Act Registration Date:	19 December 2007
National Energy Board File Numbers:	OF-Fac-Gas-W102-2008-03 01 OF-Fac-Gas-W102-2007-10 01	Canadian Environmental Assessment Registry Number:	07-01-36147
CEA Act Law List Trigger:	Section 52 of the <i>National Energy Board Act</i>	CEA Act Determination Date:	28 October 2008
A map showing the proposed route of the South Peace Pipeline. The pipeline starts at the McMahon Gas Plant (NE 1/4 25-82-18 W6M) in the north and follows a winding path through several towns and areas: Parkland, Farmington, Willowbrook, Dawson Creek, Athabasca, Fellers Heights, and Upper Cutbank. The map also shows the Canadian Rockies to the west and various land survey sections like NE 1/4 31-82-17 W6M and SW 1/4 4-82-17 W6M. A legend on the left indicates symbols for roads, rivers, and pipelines. A scale bar at the bottom left shows distances from 0 to 10 kilometers.			

Canada

SCREENING SUMMARY

On 27 February 2008, Westcoast Energy Inc., carrying on business as Spectra Energy Transmission (Westcoast) applied to the National Energy Board (NEB) for authorization to construct and operate the South Peace Pipeline Project (the Project or Pipeline), which would serve as an extension of its existing Fort St. John raw gas transmission system from the existing McMahon Gas Processing Plant, located at Taylor, British Columbia (BC), to an area south of the Peace River.

The Project facilities include three sections of pipeline, approximately 14 Emergency Shut Down (ESD) valve assemblies, and pig sending and receiving facilities. The three pipeline sections have a cumulative route length of 91.7 km and a combined total pipe length of 92.7 km. The first section, referred to as the South Peace Pipeline, would be a 508.0 mm OD pipe, approximately 87.5 km in length, extending from a proposed producer receipt point at c-95-E/93-P-08 to the southern end of Westcoast's existing Peace River Crossing Pipeline (the Existing Pipeline), on the south side of the Peace River. The second section, referred to as the McMahon Tie-in Pipeline, would be a 508.0 mm OD pipe, approximately 4.2 km in length, extending from the northern end of the Existing Pipeline, on the north side of the Peace River, to the existing McMahon Plant. The third section, a Liquids Handling Loop, would be a 508.0 mm OD pipe, approximately 1 km in length, and would be installed within a common trench with the McMahon Tie-in Pipeline, terminating at the McMahon Gas Plant. The pipeline would be designed to transport sour, dehydrated, natural gas having a maximum hydrogen sulphide (H_2S) content of five percent. The maximum operating pressure (MOP) of the proposed pipeline would be 9930 kPa, with a capacity of $6260.4 \cdot 10^3 m^3/d$ (221 MMcf/d).

The NEB is the Federal Environment Assessment Coordinator for this Project. Transport Canada has declared themselves a Responsible Authority while Natural Resources Canada and Health Canada have identified themselves as Federal Authorities in possession of specialist advice.

A number of potential adverse environmental effects of the Project, both bio-physical and socioeconomic, were identified. The main issue of public concern focused on the potential health effects of an accidental release of H_2S .

The NEB has considered information provided by Westcoast, government departments and the public during its review of the Project and is of the view that, with the implementation of Westcoast's environmental protection procedures and mitigation measures, and the NEB's recommendations, the Project is not likely to cause significant adverse environmental effects.

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LIST OF ACRONYMS AND ABBREVIATIONS

BC	British Columbia
Board or NEB	National Energy Board
CAC	Criteria Air Contaminants
CEA Act	<i>Canadian Environmental Assessment Act</i>
CDC	Conservation Data Centre
cm	centimeter
DFO	Fisheries and Oceans Canada
EA	environmental assessment
EPP	Environmental Protection Plan
EPZ	Emergency Planning Zone
ERCB	Energy Resources Conservation Board
ERP	Field Emergency Response Plan
ESA	Westcoast's Environmental and Socio-economic Assessment, which was submitted as part of the Westcoast's Application to the Board
ESR	Environmental Screening Report
Environmental Manual	Environmental Manual for Construction Projects in Canada (2006)
Existing Pipeline	Westcoast's existing 11.7 km long, 323.9 mm (12.75-inch) outside diameter Peace River Crossing Pipeline that crosses the Peace River 1 km south of Taylor
FCN Letter	federal coordination notification letter
GHG	Greenhouse Gas
H ₂ S	hydrogen sulphide
HDD	horizontal directional drill
km	kilometre
m	metre
mm	millimetre
McMahon Tie-in Pipeline	the proposed 4.2 km long, 508 mm (20-inch) outside diameter pipeline segment connecting the existing McMahon Gas Processing Plant in Taylor to the northern end of Westcoast's Existing Pipeline
NEB Act	<i>National Energy Board Act</i>
NWPA	<i>Navigable Waters Protection Act</i>
OD	outside diameter
OPR	the NEB's <i>Onshore Pipeline Regulations, 1999</i>
Plant	the existing McMahon Gas Processing Plant, located in Taylor
Project or Pipeline	the proposed South Peace Pipeline Project (the cumulative route length of 91.7 kilometres (km), and combined total pipe length of 92.7km, of the South Peace and McMahon Tie-in Pipelines and Liquids Handling Loop)
PCMP	Post Construction Monitoring Plan

RoW	right-of-way
SARA	<i>Species at Risk Act</i>
SCADA	Supervisory Control and Data Acquisition
Scope	the scope of the environmental assessment for the South Peace Pipeline Project
South Peace Pipeline	The proposed 87.5 km long, 508 mm (20-inch) outside diameter pipeline segment connecting a producer receipt point in the Oetata Ridge area to the southern end of Westcoast's Existing Pipeline
TC	Transport Canada
UWR	Ungulate Winter Range is a formal legal establishment under the BC <i>Forest and Range Practices Act</i> and is defined as an area that contains habitat that is necessary to meet the winter habitat requirements of an ungulate species
Westcoast	Westcoast Energy Inc., carrying on business as Spectra Energy Transmission

1.0 INTRODUCTION

1.1 Project Overview

Westcoast Energy Inc., carrying on business as Spectra Energy Transmission (Westcoast) currently owns and operates raw gas transmission or “gathering” pipelines in the Fort St. John resource area of northeastern British Columbia (BC) through which raw gas is transported from various producer field locations to Westcoast’s existing McMahon Gas Processing Plant (the Plant) at Taylor for processing. At the Plant, hydrogen sulphide (H₂S), carbon dioxide and other impurities are removed from the gas prior to it being transported to markets in Alberta, BC and the United States.

The proposed South Peace Pipeline Project (the Project) is an extension of Westcoast’s existing Fort St. John raw gas transmission system to an area south of the Peace River, involving the construction of approximately 92.7 kilometres (km) of raw sour natural gas pipeline (5% H₂S), 68.5 km of which would be new right-of-way (RoW), and associated infrastructure. Gas from the South Peace area would be transported to the Plant for processing.

On private land, which represents approximately 80% of the Pipeline, a permanent 18 m RoW would be required with an additional 7 m required as temporary workspace. On Crown land, which makes up the remaining 20% of the route, a permanent 25 m RoW would be required with additional 30 m by 40 m log deck sites located approximately 1 km apart along the RoW in forested areas, for temporary decking of salvageable timber during construction.

Section 5.0 provides a more detailed description of the work associated with the Project.

1.2 Information Sources Used in this Environmental Screening Report

This Environmental Screening Report (ESR) is based on information from the following sources:

- Project application, including the Environmental and Socio-Economic Assessment (ESA);
- supplementary filings to the Project application;
- responses to information requests;
- various Westcoast manuals referenced in the Project application (*e.g.*, Environmental Manual for Construction Projects in Canada – June 2006);
- submissions from the public and interested parties;
- evidence submitted at the public oral hearing; and
- Federal departments.

Filed information pertaining to the Project application can be found within ‘Regulatory Documents’ on the National Energy Board (NEB or Board) website (www.neb-one.gc.ca). For more details on how to obtain documents, please contact the Secretary of the NEB at the address specified in Section 11.0 of this ESR.

2.0 RATIONALE FOR THE PROJECT

The Project would connect established and potential gas reserves to the Westcoast system, ultimately providing access to various markets. The Project would also contribute to the overall economic

development of the area and help increase the long term utilization of the Westcoast system, including the Plant.

3.0 ENVIRONMENTAL ASSESSMENT PROCESS

Westcoast's application to construct and operate the Project was made pursuant to section 52 of the *National Energy Board Act* (NEB Act), which is identified in the *Canadian Environmental Assessment Act (CEA Act) Law List Regulations*, thereby requiring the preparation of this ESR.

Since the Project would not require more than 75 km of new RoW, as defined in the CEA Act *Comprehensive Study List Regulations*, the Project was subjected to a screening level of environmental assessment under the CEA Act.

3.1 Government Participation in the Environmental Assessment Process

The NEB is the Federal Environment Assessment Coordinator for this Project. Upon receipt of a Preliminary Information Package for the Project in December 2007, the NEB issued a federal coordination notification letter (FCN Letter), pursuant to the *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements*, to identify the potential involvement of federal departments in the environmental assessment (EA) process. The FCN Letter was also sent to provincial agencies in BC.

Transport Canada (TC) has identified itself as a Responsible Authority for this Project, pursuant to Section 5 of the CEA Act, on the basis that the proposed route would be passing through, in, over, or under multiple watercourses that may require authorizations pursuant to Section 5(1) of the *Navigable Waters Protection Act* (NWPA) and/or section 108 of the NEB Act, both of which are sections identified in the CEA Act *Law List Regulations*.

Fisheries and Oceans Canada (DFO), Natural Resources Canada, and Health Canada have identified themselves as Federal Authorities in possession of specialist advice.

3.2 Draft Scope of the EA

In March 2008, the NEB solicited comments from federal and provincial agencies as well as from the general public, pursuant to subsection 18(3) of the CEA Act, on the draft scope of the EA for the Project. No changes were required to the draft scope as a result of comments received.

3.3 NEB Hearing

The public oral hearing for the Project, pursuant to NEB Hearing Order GH-3-2008, was held on 26 August 2008 in Dawson Creek, BC.

3.4 Draft ESR

On 26 September 2008, the NEB issued a draft ESR for public comment. An announcement of the public comment period was also posted on the Canadian Environmental Assessment Registry. A brief summary of public comments is provided in Section 7.2. Revisions were made to the ESR, as appropriate.

4.0 SCOPE OF THE EA

The Scope of the EA (the Scope) is composed of three components:

1. Scope of the Project;
2. Factors to be Considered; and
3. Scope of the Factors to be Considered.

The Scope, as determined in consultation with federal authorities and the public, is included in Appendix 1 of this ESR and provides detailed information on these three components.

For this Project, the term “alternative means”, as mentioned in Section 2.2 of the Scope, primarily refers to alternative routing options for the proposed pipeline segments. These routing options are discussed in Section 9.1 of this ESR. Alternative construction methodologies are also considered within the context of alternative means.

5.0 DESCRIPTION OF THE PROJECT

Sections 5.1, 5.2 and 5.3 provide information for each phase of the Project: construction, operations and abandonment.

5.1 Construction Phase

Physical Works and/or Activities
<p><i>Timeframe:</i> Construction is scheduled to begin in February 2009, pending regulatory approvals.</p>
<p><u>South Peace Pipeline</u></p> <ul style="list-style-type: none">▪ An approximately 87.5 km long, 508.0 millimetre (mm) (20-inch) outside diameter (OD) pipeline segment extending from a producer receipt point in the Oetata Ridge area at c-95-E/93-P-08 to the southern end (at SW1/4 04-082-17 W6M) of an existing 11.7 km long, 323.9 mm OD (12.75-inch) Westcoast pipeline that crosses the Peace River 1 km south of Taylor (the Existing Pipeline).
<p><u>McMahon Tie-in Pipeline</u></p> <ul style="list-style-type: none">▪ An approximately 4.2 km long, 508.0 mm (20-inch) OD pipeline segment connecting the northern end of the Existing Pipeline (north of the Peace River at NE1/4 31-082-17 W6M) to the McMahon Plant at NE1/4 25-082-18 W6M.
<p><u>Liquids Handling Loop:</u></p> <ul style="list-style-type: none">▪ A 508.0 mm (20-inch) OD pipeline loop (approximately 1 km in length and terminating at the McMahon Plant) would be installed in a common trench with the McMahon Tie-in Pipeline, to provide liquids handling capability.
<p><u>Other Facilities:</u></p> <ul style="list-style-type: none">▪ Approximately 14 emergency shutdown valves with associated enclosures and Supervisory Control and Data Acquisition (SCADA) monitoring; these sites would be fenced and graveled.▪ Pigging facilities at both ends of the South Peace Pipeline and McMahon Tie-in Pipeline.▪ Installation of new, or the use of existing, flare stacks, propane tanks for purge gas, inhibitor and methanol storage tanks and injection systems at the sending end of each pipeline segment.▪ Cathodic protection

Physical Works and/or Activities

Timeframe: Construction is scheduled to begin in February 2009, pending regulatory approvals.

Associated Activities

- Construction activities would include clearing (snow, trees, stumps, brush, and vegetation), topsoil/root zone salvage, grading, excavation, backfilling, pressure testing, clean-up and reclamation.
- Additional temporary construction workspace would be required at the various crossings, areas of steep terrain and areas with deep topsoil or special soil handling procedures.
- Crossing of various roads and railways along the RoW, as well as foreign pipelines and utility lines.
- Access to the Project would be via existing roads and RoW.
- Salvageable timber would be cut and decked and hauled to local mill.
- Crossing of numerous watercourses (approximately 28, some navigable) using various techniques: isolated, (e.g., dam and pump, flume), open cut, horizontal directional drill (HDD); temporary bridges may be installed for vehicle access, in accordance with applicable regulations.
- Hydrostatic testing using either water or a water/methanol mix; water would be drawn from suitable sources and returned to the appropriate watersheds in accordance with permit requirements; water/methanol mixes would be hauled in, recovered and returned to the supplier.
- Other required temporary facilities: equipment storage sites, pipe stockpile sites, borrow pits, and construction office sites.

5.2 Operations Phase

Activities

Timeframe: Westcoast's planned in-service date for the Project is 1 July 2009.

- Line Patrols would be conducted to visually inspect for environmental and monitoring issues in accordance with the NEB's *Onshore Pipeline Regulations, 1999* (OPR-99);
- Vegetation control, if warranted, would be conducted in accordance with requirements from the appropriate government authority;
- Regular Running of In-line inspection tools would occur;
- Regular pigging of the McMahon Tie-in and South Peace Pipelines and associated flaring of gas;
- Continuous injection of corrosion inhibiting chemicals;
- Maintenance digs would be conducted in the event that an actual or suspected pipeline integrity problem is identified, and reseeding and reclamation would be undertaken.

5.3 Abandonment Phase

At the end of the service life of the Project, an application pursuant to paragraph 74(1)(d) of the NEB Act would be required for its abandonment, at which time the environmental effects of the proposed abandonment activities would be assessed by the NEB under both the NEB Act and the CEA Act.

6.0 DESCRIPTION OF THE ENVIRONMENT

This section describes the environmental and socio-economic setting along the proposed 91.7 km long cumulative route of the South Peace and McMahon Tie-in Pipelines and Liquids Handling Loop.

Terrain and Soils

- The Project area is generally characterized by gently to moderately sloping terrain, which slopes steeply at watercourse valleys.
- The Project area is underlain by sedimentary bedrock which is soft and can be easily excavated with normal construction equipment; there is a low potential of acid-generating bedrock being encountered along the proposed route.
- The South Peace Pipeline route is generally characterized by relatively thin or absent topsoil horizons in bush areas, and 10-20 cm of topsoil in cleared and developed fields, while the McMahon Tie-in Pipeline route on the Taylor Flats is characterized by 15-20 cm of topsoil.
- In general, the route traverses agricultural and forested areas that are moderately to well-drained.
- The Project Area does not encounter any contaminated sites listed on the Federal Contaminated Sites Inventory (FCSI) (Treasury Board of Canada Secretariat 2007). There are no areas of known soil contamination along the proposed route; however, the likelihood of contamination is considered to be higher on or adjacent to previously disturbed lands.
- The Project is located primarily within the Agricultural Land Reserve.
- Approximately 80% of the Project is located on private land with the remainder being located on BC Crown Land.

Vegetation

- Most of the private lands traversed by the Project have been broken or cleared for agricultural purposes while the Crown land segments are, for the most part, forested.
- Noxious weeds found during the 2008 weed survey included: creeping (Canada) thistle, cleavers, quack grass and wild oats.
- The Project is located within an Aggressive Emergency Bark Beetle Management Area for mountain pine beetles (MPBs) (BC MOFR 2007), and the presence of MPB was confirmed during the 2008 rare plant surveys, wherever pine stands occurred.

Watercourses and Aquifers

- The Project lies within the Peace River Watershed with most of the Project located in the Kiskatinaw River watershed group and a portion in the Lower Peace River watershed group.
- The Project will involve 28 watercourse crossings. Named watercourses being crossed include Kiskatinaw River (two crossings) and the following Creeks: Oetata, Reed, Reamer, Brassey, Five Mile, Six Mile and Eight Mile.
- Although the Pipeline crosses the Kiskatinaw River downstream of the water supply intake for Dawson Creek, the southern portion of the Pipeline parallels the river upstream of the intake and crosses several of its tributaries, including Reamer, Brassey and Oetata Creeks.
- The Project area overlies several sand and gravel aquifers of moderate productivity (demand is moderate relative to aquifer yield).

Fish and Fish Habitat

- Sportfish were found in only 4 of the 28 watercourse crossings identified for the Project (2 Kiskatinaw River locations, Oetata Creek, and Brassey Creek) and these locations were determined to have low to moderate fish habitat potential.

- There are approximately eight sportfish species and 12 non-sportfish species that are expected to occur in watercourses crossed by the Project.

Wetlands

- The Pipeline traverses approximately 12.2 km of wetland habitat, comprising approximately 14% of the Pipeline. Peatlands (muskeg) comprise approximately 9.2 km of the wetlands, while 3 km of wetland habitat is classified as mineral.
- There are no Ramsar Wetlands of International Importance along the Pipeline.

Wildlife and Wildlife Habitat

- The Project lies in the Boreal Taiga Plains Bird Conservation Region in BC, but does not cross any Important Bird Areas designated by the International Council on Bird Preservation, Migratory Bird Sanctuaries as defined in the *Migratory Birds Convention Act*, or Ducks Unlimited Canada projects.
- The Pipeline does not traverse any Ungulate Winter Ranges (UWR), although it does cross an area identified as having moderate habitat suitability for woodland caribou. The nearest known woodland caribou population (Quintette herd) is located approximately 30 km south of the Project. Trace occurrences of caribou have been reported in the southern portion of the Project. No obvious caribou signs were noted during a 2007 survey.
- A 2008 survey identified a total of 78 wildlife species along the Pipeline (12 mammal, 63 bird, and 3 amphibian species).

Species at Risk (listed on Schedule 1 of the Species at Risk Act (SARA))

- No endangered or threatened species at risk, whose habitat occurs along or in the vicinity of the proposed Pipeline, were observed in field surveys.
- Two western toads were observed in a temporary pond located on the proposed RoW. The western toad is listed as a species of Special Concern, and is dependent upon small, fishless ponds and lakes for breeding. The proposed route does not encounter and encroach upon known critical habitat for the western toad.

Provincially-Listed Species of Concern

- Riverbank anemone, a BC Conservation Data Centre (CDC) listed rare plant species with S1 status (requires complete protection), was observed during the 2008 rare plant surveys. No rare ecological communities were observed during that survey.
- Black-throated green warbler and upland sandpiper, classified as BC CDC listed rare species, were observed during the 2008 supplemental wildlife survey. There was, however, no evidence that the birds were nesting along the RoW and they would not be present during winter when construction activities are proposed.

Air Quality

- Existing noise and air emissions along most of the Pipeline are primarily caused by anthropogenic sources, including vehicle and rail traffic as well as agriculture and industrial activities.
- H₂S is the only measurable parameter that occasionally exceeds the BC (Provincial) Ambient Air Quality Objectives in the Project area (BC MOE 2008). These emissions originate from nearby oil and gas facilities, primarily at Taylor, BC. Concentrations of sulphur dioxide (SO₂), H₂S, and

particulate matter (PM₁₀, PM_{2.5}) are otherwise expected to be present in very low parts per billion in the Project area.

Human Occupancy and Resource Use

- Small to large sized communities located in the vicinity of the Pipeline include Upper Cutbank, Farmington, Dawson Creek, Taylor and Fort St. John.
- The majority of lands along the Pipeline are privately-owned and under agricultural land use; however, the Pipeline also traverses portions of forested Crown land.
- The Pipeline does not traverse lands under Parks Canada jurisdiction, proposed or protected areas, ecological reserves, environmentally significant areas, recreational areas, Indian Reserves, Metis Settlements or other lands with specific dispositions limiting pipeline development.
- Westcoast has identified nine individuals (or groups) as holding trapline licenses and one individual as holding a guide outfitter license within the vicinity of the Project area.
- Westcoast has identified seven individuals as holding grazing licenses in the Project area.
- The Pipeline does not cross any reserve lands.

Traditional Land and Resource Use

- The proposed Project occupies Crown and private land holdings within Treaty No. 8 (1899). The Project area includes the overlapping traditional territories of the Kelly Lake Cree Nation, Kelly Lake First Nations, Kelly Lake Métis Settlement Society, McLeod Lake Indian Band, North East Métis Association, Saulteau First Nations and West Moberly First Nations.
- Approximately 17.4 km of the Pipeline is located within Crown lands. A total of 269 traditional use sites were identified during fieldwork reconnaissance program for the Traditional Land Use (TLU) Assessment.

Heritage / Archaeological / Paleontological Resources

- 19 previously-recorded archaeological sites are located within 500 m of the Project. Eight previously-unrecorded archaeological sites were identified during field assessments on Crown lands traversed by the Pipeline. No Culturally Modified Trees have been identified.
- The Project does not traverse any previously-designated paleontological sites.
- 4.5 km of the Pipeline RoW remain to be surveyed.

7.0 COMMENTS FROM THE PUBLIC

7.1 Project-Related Issues Raised

During the preparation of its application for the Project, Westcoast consulted with a number of sources including the general public, the Kiskatinaw Pipeline Landowners Association (KPLA), Aboriginal groups and federal, provincial and local government agencies. This information, in addition to issues and concerns raised by potentially affected Aboriginal groups that were identified in Westcoast's filings, contributed to the identification of potential adverse environmental effects, issues of concern and the development of mitigation measures. These effects have been categorized by environmental element and interested party as outlined below. Information and concerns raised through the submissions have been incorporated within Section 9.0 of this ESR.

Environmental Element of Interest	Interested Party		
	Government Agencies (Federal, Provincial, Regional, Local)	Public (Individuals, Landowner Associations, Conservation Groups)	Aboriginal Groups
Soil and Soil Productivity		●	
Vegetation	●	●	●
Water Quantity and Quality	●	●	●
Fish and Fish habitat	●		
Human Occupancy and Resource Use	●	●	
Heritage Resources	●		●
Current Traditional Land and Resource Use	●		●
Human Health	●	●	
Accidents and Malfunctions	●	●	
Routing	●	●	
Abandonment		●	

7.2 Comments Received by the NEB on the Draft ESR

Following the release of the draft ESR, a number of comments were received from TC, DFO, the KPLA and Mr. Edward and Mrs. Gwenda Henderson. TC's submission included correspondence from the Kelly Lake Cree First Nation. Westcoast also provided comments, including responses to a number of the comments made by those parties mentioned above.

Appendix C provides a summary of the comments, some of which resulted in wording changes to the ESR. Explanations have been included for comments that did not result in changes to the ESR, and for comments that were addressed in part. TC and Westcoast provided several clarifications on wording which resulted in non-substantive changes throughout the ESR. These clarifications are not summarized in Appendix C.

The Board has also made minor wording changes within the ESR for clarity and consistency.

8.0 THE NEB'S EA METHODOLOGY

In assessing the environmental effects of the Project, the NEB used an issue-based approach.

Alternative pipeline routing considerations are discussed in Section 9.1. In its analysis within Section 9.2, the NEB identified interactions expected to occur between the proposed Project activities and the surrounding environmental elements. Also included were the consideration of potential accidents and malfunctions that may occur due to the Project and any change to the Project that may be caused by the environment. If there were no expected element/Project interactions, then no further examination was deemed necessary. Similarly, no further examination was deemed necessary for interactions that would result in positive or neutral potential effects. In circumstances where the potential effect was unknown, it was categorized as a potential adverse environmental effect.

Section 9.3.1 provides an analysis for all potential adverse environmental effects that Westcoast proposes to resolve through the use of routine design or mitigation measures. In Section 9.3.2, the Board has identified certain potential adverse environmental effects for detailed analysis based on public concern, the use of non-routine design or mitigation measures, or the relative importance of the elements in question in the context of this application.

Section 9.4 provides discussion on inspection while Section 9.5 addresses cumulative effects.

Section 9.6 addresses follow-up programs and Section 9.7 lists recommendations for any subsequent regulatory approval of the Project.

9.0 ENVIRONMENTAL EFFECTS ANALYSIS

9.1 Pipeline Routing

Major Route Selection

Selection of the proposed pipeline route for the South Peace Pipeline involved the evaluation of many factors including stakeholder/landowner concerns, utilizing stable watercourse crossings, avoiding important wildlife and plant species and habitat, maintaining separation from dwellings and structures, minimizing the length of the pipeline, reducing the creation of new corridors, reducing clearing requirements by sharing or overlapping rights-of-way, and schedule impacts. The route evaluation process resulted in the development of three alternatives that were subjected to further assessment: the Eastern Route Corridor; the Western Route Corridor, and the Central Route Corridor.

The Eastern Route Corridor ran along the east side of the Kiskatinaw River with the south crossing of the Kiskatinaw River much farther south than the route ultimately selected. This option was up to 10 kilometres longer than the presently proposed route given the constraints of Kiskatinaw River crossing locations (mainly the north crossing). Essentially, this route bulged out to the east resulting in increased length. There were also fewer opportunities in this corridor to parallel existing linear disturbances.

The Western Route Corridor, located entirely west of the Kiskatinaw River, was also considered, particularly during desktop and map review. The most positive feature of this route was that it would avoid any crossings of the Kiskatinaw River. However, it was apparent upon reviewing the potential route options that the total length of pipeline along this route would be much greater than the alternatives and the pipeline would need to be placed even further west of the Kiskatinaw River to avoid crossing numerous deeply incised tributary streams to the river. Also, potential future gas development and producer tie-ins to the South Peace Pipeline had been identified east of the Kiskatinaw River. Accordingly, this route was eliminated early in the review and no detailed routing was conducted.

As a result of the negative considerations along both the Eastern and Western Route Corridors, a Central Route Corridor running essentially in a north-south direction from the south end of the Existing Pipeline to the c-95-E/93-P-08 commencement point was evaluated. This route allowed for geotechnically preferred crossings of the Kiskatinaw River, reduced crossings of other watercourses, provided the opportunity to parallel a greater amount of existing disturbance and RoWs, accommodated potential future gas development and tie-in points, and was shorter in total length.

Westcoast selected the Central Route Corridor for the preferred route because it was more successful in meeting route selection criteria. To date, no critical geotechnical issues have been identified along the proposed route and no key concerns have been identified with respect to the feasibility of crossing the

major watercourse crossings. In the event that the proposed crossing method cannot be completed at one or more of these proposed crossings, Westcoast would then seek regulatory approval for proposed alternate crossing method(s).

Realignments

Subsequent to filing its application, Westcoast proposed route realignments at three locations along the South Peace Pipeline and to relocate the McMahon Tie-in Pipeline to follow existing pipeline routes to the McMahon Plant.

The three realignments to the proposed route of the South Peace Pipeline are the result of discussions that Westcoast has had with area landowners and requests from the landowners to alter the route in these locations. Westcoast stated that the realignments, which are all on private property, pose no geotechnical, construction or operational issues and will cross similar lands as the previous alignments.

A minor shift in the route alignment (approximately 50 metres to the west) was also proposed at the Oetata Creek crossing (KP 4.3 on the South Peace Pipeline) to address a proposed change in crossing method at this location from a horizontal directional drill (HDD) to an isolated dam and pump crossing. The change in crossing method was recommended in order to avoid a slumping stream bank on the HDD alignment. The stream was re-assessed in the field in March 2008 and found to be a good candidate for an isolated crossing based on its relatively narrow width and low flow. Westcoast has discussed this proposed change in crossing method at Oetata Creek with the Department of Fisheries and Oceans Canada (DFO). DFO will review the specific details of Westcoast's stream crossing plan but is generally accepting of the proposed crossing method and has advised Westcoast that a harmful alteration, disruption or destruction of fish habitat is considered unlikely.

Views of the Board

The Board is of the view that the route evaluation criteria applied by Westcoast in selecting the proposed routing is appropriate and has been selected with a view to minimizing potential adverse effects on people and the environment, minimizing engineering and construction issues and paralleling existing rights-of-way to the extent reasonably possible. The Board notes that if landowners whose lands may be affected by the proposed project have specific concerns with the proposed detailed route, or the methods or timing of construction, they may request that a detailed route hearing be held.

9.2 Project - Environment Interactions

Environmental Element	Project Interaction?	Description of Interaction (How, When, Where)	Type of Potential Effect(s)	Potential Adverse Environmental Effect	Mitigation Discussed In:	
					Section 9.3.1	Section 9.3.2
Terrain stability	Y	<ul style="list-style-type: none"> ▪ Clearing, grading, excavation and backfilling along the Row 	Adv	<ul style="list-style-type: none"> ▪ Terrain instability 	X	
Soil and Soil Productivity	Y	<ul style="list-style-type: none"> ▪ Clearing, grading, excavation and backfilling along the Row ▪ Use of construction equipment and vehicles 	Adv	<ul style="list-style-type: none"> ▪ Lowering of Soil Productivity (topsoil/subsoil mixing, mixing with saline or gravelly subsoil, compaction and rutting, surface wind and water erosion, trench subsidence) on agricultural and forested lands ▪ Spread of clubroot disease 	X	
Vegetation	Y	<ul style="list-style-type: none"> ▪ Clearing, grading, excavation and backfilling along the Row ▪ Use of construction equipment and vehicles 	Adv	<ul style="list-style-type: none"> ▪ Loss or alteration of native vegetation ▪ Loss of vascular plant species of concern ▪ Alteration of vegetation important to wildlife ▪ Introduction or spreading of weeds ▪ Spreading of Mountain Pine Beetle ▪ Removal of ornamental trees, windbreaks, or shelterbelts ▪ Loss of salvagable timber 	X	
Water Quality and Quantity	Y	<ul style="list-style-type: none"> ▪ Clearing, grading, excavation and backfilling along the Row ▪ Use of construction equipment and vehicles ▪ Hydrostatic test water withdrawal and discharge 	Adv	<ul style="list-style-type: none"> ▪ Alteration of natural drainage patterns ▪ Disruption of streamflow ▪ Reduction in surface water quality ▪ Reduction of groundwater quality ▪ Disruption of springs 	X	
Fish and Fish Habitat	Y	<ul style="list-style-type: none"> ▪ Clearing, grading, excavation and backfilling along the Row ▪ Use of construction equipment and vehicles ▪ Hydrostatic test water withdrawal and discharge ▪ Isolation and dewatering of 	Adv	<ul style="list-style-type: none"> ▪ Fish mortality and the disturbance or alteration of fish habitat, resulting from ▪ Disturbance of riparian habitat <ul style="list-style-type: none"> ▪ Loss and alteration of instream habitat ▪ Increased suspended sediment concentrations in the water column 	X	

Bio-Physical

Environmental Element	Project Interaction?	Description of Interaction (How, When, Where)	Type of Potential Effect(s)	Potential Adverse Environmental Effect	Mitigation Discussed in:
					Section 9.3.2
Wetlands	Y	<ul style="list-style-type: none"> ▪ watercourse crossings during pipeline installation ▪ Horizontal Directional Drilling of watercourse crossings during pipeline installation 	Adv	<ul style="list-style-type: none"> ▪ Drilling mud release ▪ Increased access on fish and fish habitat ▪ Blockage of fish movements ▪ Interbasin transfer of aquatic organisms ▪ Contamination from spills 	
Wildlife and Wildlife Habitat	Y	<ul style="list-style-type: none"> ▪ Clearing, grading, excavation and backfilling along the RoW ▪ Use of construction equipment and vehicles 	Adv	<ul style="list-style-type: none"> ▪ Alteration of wetlands (hydrologic and water quality functions) ▪ Contamination from spills 	X
Species at Risk (Federal)	Y	<ul style="list-style-type: none"> ▪ Clearing, grading, excavation and backfilling activities along the RoW ▪ Use of construction equipment and vehicles 	Adv	<ul style="list-style-type: none"> ▪ Loss or alteration of habitat ▪ Barriers to wildlife movement ▪ Changes to habitat connectivity ▪ Sensory disturbance during construction ▪ Wildlife mortality 	X
Species of Concern (Provincial, Local)	Y	<ul style="list-style-type: none"> ▪ Clearing, grading, excavation and backfilling activities along the RoW ▪ Use of construction equipment and vehicles 	Adv	<ul style="list-style-type: none"> ▪ Western toad mortality and the loss or alteration of western toad habitat during construction 	X
Air Quality	Y	<ul style="list-style-type: none"> ▪ Use of construction vehicles and equipment ▪ Burning of slash material ▪ Pipeline maintenance activities 	Adv	<ul style="list-style-type: none"> ▪ Mortality and the loss or alteration of habitat for <ul style="list-style-type: none"> ▪ Black throated green warbler ▪ Upland sandpiper ▪ Riverbank anemone 	X

Environmental Element	Project Interaction?	Description of Interaction (How, When, Where)	Type of Potential Effect(s)	Potential Adverse Environmental Effect	Mitigation Discussed in:
					Section 9.3.1 Section 9.3.2
Human Occupancy/ Resource Use	Y	<ul style="list-style-type: none"> ▪ Transport of labour and materials to the Project site ▪ Clearing, grading, excavation and backfilling activities along the RoW ▪ Use of construction equipment and vehicles 	Adv	<ul style="list-style-type: none"> ▪ Decrease in quality of outdoor recreation experience at select locations ▪ Disruption of farming and ranching operations ▪ Reduction in land base for timber harvest ▪ Disruption of outfitting, trapping, hunting and fishing activities ▪ Interference with navigation of waterways ▪ Disruption of water well use ▪ Increased traffic on highways and local roads used to access the RoW ▪ Temporary increase in waste flow to regional landfill sites ▪ Change in availability of local accommodation 	X X
Heritage Resources	Y	<ul style="list-style-type: none"> ▪ Clearing, grading, excavation and backfilling activities along the RoW 	Adv	<ul style="list-style-type: none"> ▪ Disturbance to, or loss of, previously unidentified heritage resources 	X
Current Traditional Land and Resource Use	Y	<ul style="list-style-type: none"> ▪ Clearing, grading, excavation and backfilling activities along the RoW ▪ Use of construction vehicles and equipment 	Adv	<ul style="list-style-type: none"> ▪ Loss or alteration of Aboriginal traditional use sites ▪ Disruption of, or inability to carry on, traditional activities 	X X
Human Health/ Aesthetics	Y	<ul style="list-style-type: none"> ▪ Clearing, grading, excavation and backfilling activities along the RoW ▪ Use of construction vehicles and equipment ▪ Burning of slash material ▪ Pipeline maintenance activities ▪ Pipeline operation 	Adv	<ul style="list-style-type: none"> ▪ Increase in nuisance air emissions and noise ▪ Alteration of viewscape ▪ Alteration or reduction of quality of drinking water supply ▪ Disturbance to local residents from increased noise levels during construction and operation ▪ Adverse human health effects in the event of product release 	X X

Environmental Element	Project Interaction?	Description of Interaction (How, When, Where)	Type of Potential Effect(s)	Potential Adverse Environmental Effect	Mitigation Discussed in:
					Section 9.3.1 Section 9.3.2
Accidents/ Malfunctions	Y	<ul style="list-style-type: none"> ▪ Damage to foreign utility lines and pipelines ▪ Spill of hazardous materials during construction ▪ Pipeline rupture ▪ Fire ▪ Release of drilling mud during HDD ▪ Transportation accidents ▪ Third party line break 	Adv	<ul style="list-style-type: none"> ▪ Disruption of transmission lines and pipelines ▪ Contamination or alteration of soil productivity ▪ Surface or groundwater quality ▪ Fish and fish habitat ▪ Wetland function ▪ Plants and ecological communities ▪ Agricultural activities ▪ Wildlife and wildlife habitat ▪ Livestock health ▪ Human health 	X X
Effects of the Environment on the Project	Y	<ul style="list-style-type: none"> ▪ Flooding ▪ Erosion ▪ Wildlife ▪ Climate Change 	Adv	<ul style="list-style-type: none"> ▪ Loss of cover over the pipeline ▪ Disruption of construction schedule ▪ Effects on scheduling of maintenance activities 	X X X

Legend: Y (Yes); N (No); U (Uncertain); P (Positive); NU (Neutral); Adv (Adverse)

9.3 Potential Adverse Environmental Effects

To address potential adverse environmental effects, Westcoast has proposed several mitigation strategies to avoid or minimize the effects of the Project including: avoidance through route selection; scheduling of activities to avoid sensitive periods; development of mitigation measures, including contingency plans to address site-specific and general issues; inspection during construction to ensure mitigation is implemented and effective; and maintenance activities during the operation of the Project. The reader is referred to Westcoast's application and supporting documentation, which are available on the Board's website, for details on mitigation proposed by the Company, along with its criteria for evaluating, and the subsequent evaluation of the significance of residual effects remaining following the implementation of proposed mitigation measures. These measures have provided the Board with a sufficient basis to assess the potential adverse environmental effects associated with the Project and meet the objective of mitigating those effects.

9.3.1 Analysis of Potential Adverse Environmental Effects to be Mitigated through Routine Measures

Analysis

In its application, Westcoast has identified routine design and best practice measures to mitigate all the potential environmental effects that were categorized in Section 9.2 as fitting into this analysis stream.

The following table provides additional discussion on the potential adverse environmental effects and associated routine mitigation that have been the subject of comments received by the NEB, for which the NEB required further information from the Company, or which involve Westcoast commitments to other federal and provincial departments or agencies.

Potential Adverse Environmental Effect	Notes
▪ Lowering of Soil Productivity	<ul style="list-style-type: none">▪ In addition to the routine design and mitigation measures outlined in Westcoast's ESA, Westcoast submitted the following plans which describe measures to mitigate the potential adverse environmental effects of the Project on soil productivity:<ul style="list-style-type: none">▪ Environmental Protection Plan (EPP);▪ Soil Survey and Reclamation Suitability Evaluation (July, 2008);▪ Wet/Thawed Soils Contingency Plan;▪ Soil Handling Contingency Plan;▪ Soil Erosion Contingency Plan;▪ Spill Contingency Plan; and▪ Recommended Soil and Water Handling Procedures During Excavation of Potential Contamination.▪ Westcoast commits to a pipeline depth of cover which exceeds CSA standards.
▪ Introduction or spreading of weeds	<ul style="list-style-type: none">▪ Westcoast completed weed surveys along the pipeline route which identified site-specific mitigation measures required to prevent the spread of weeds.▪ Westcoast stated that any problematic areas noted prior to or during construction, or during the post-construction monitoring program, would be controlled as deemed appropriate by the Chief Inspector and/or Environmental Inspector in consultation with a local weed specialist and landowners.
▪ Fish mortality or the disturbance or alteration of fish habitat	<ul style="list-style-type: none">▪ Westcoast has identified:<ul style="list-style-type: none">▪ the locations of watercourse crossings;▪ species that are or could be present;▪ vehicle and pipeline crossing techniques; and

Potential Adverse Environmental Effect	Notes
	<ul style="list-style-type: none"> ▪ mitigation measures. ▪ Westcoast has undertaken 2008 fish surveys and has submitted Watercourse Crossing Plans and Contingency Plans to the NEB, DFO, BC Minister of Environment, and Transport Canada. ▪ Westcoast stated that it is maintaining ongoing consultation with DFO regarding Operational Statements, horizontal directional drilling crossings and DFO authorizations. ▪ Westcoast stated that it will adhere to all approvals, permits, and authorizations issued by regulatory authorities and that any alternatives or alterations to crossings requirements specified in approvals, permits, and authorizations must be approved prior to the commencement of crossing construction.
<ul style="list-style-type: none"> ▪ Adverse human health effects in the event of a product release 	<ul style="list-style-type: none"> ▪ Westcoast has a comprehensive Emergency Management Plan that uses an all-hazard approach to emergency planning and response. The Emergency Management Plan includes the Emergency Response Plans (ERPs) for each of Westcoast's operating areas. The Emergency Management Plan is updated annually and filed with the Board. ▪ Westcoast stated that the Parkland School is currently less than 500 m within the Emergency Planning Zone (EPZ) for the Project. Westcoast also stated that it is in discussions with landowners regarding the placement of a line break valve in an effort to minimize the EPZ near the Parkland School, thereby removing the school from the EPZ altogether. While this would not alter the Board's expectations regarding Westcoast's Emergency Management Plan, Westcoast committed to providing the Board with an amended EPZ for the Project if changes to the placement of line break valves were to occur based on negotiations with landowners. ▪ Westcoast commits, through its Continuing Education Program, to provide public awareness and education for those landowners, residents and businesses that may be affected by a release of product from the South Peace Pipeline. Prior to start up, Westcoast would visit all landowners, residents and businesses located in the EPZ (including those that may need to travel through the EPZ to evacuate). Information would be provided on how to recognize a pipeline incident, what individuals should do in the event of a pipeline leak or rupture, how to notify first responders and Westcoast and what they should do until the responders arrive. These public awareness visits would continue as part of Westcoast's ongoing Continuing Education Program after the facilities are placed in service.
<ul style="list-style-type: none"> ▪ Disturbance to local residents from increased noise levels during construction and operation 	<ul style="list-style-type: none"> ▪ Westcoast stated that it would notify affected landowners in advance of any after-hours work at HDD sites during construction and that during operations it would take reasonable steps to reduce noise and ensure compliance with Alberta Energy Resources and Conservation Board (ERCB) Directive 038.
<ul style="list-style-type: none"> ▪ Disturbance to, or loss of, previously unidentified heritage resources 	<ul style="list-style-type: none"> ▪ Westcoast submitted a Heritage Resources Discovery Contingency Plan, which describes measures to mitigate adverse effects on heritage resources discovered during construction. ▪ Westcoast will complete and file with the Board an Archaeological Impact Assessment report for the approximately 4.5 km of Project RoW not included in Final Permit Report 2007-357 (refer to Recommendation (3) in Section 9.7 for more details). Westcoast will inform the Board of its intentions to follow any permit conditions and/or recommendations for mitigation that are deemed necessary by the BC Archaeological Branch for the entire pipeline route (refer to Recommendation (4) in Section 9.7 for more details).

Potential Adverse Environmental Effect	Notes
<ul style="list-style-type: none"> ▪ Interference with navigation of waterways 	<ul style="list-style-type: none"> ▪ Westcoast has submitted applications to Transport Canada for the following pipeline crossings deemed navigable under the <i>Navigable Waters Protection Act</i>: Kiskatinaw River (North), Kiskatinaw River (South), Brassey Creek and Oetata Creek; and two temporary access road bridges over Oetata Creek and a tributary to Oetata Creek called Halfmoon Creek. ▪ If alternate crossing techniques are required for the HDD crossings over navigable watercourses, Westcoast will make additional application to Transport Canada and will follow any permit conditions and/or regulatory recommendations made.
<ul style="list-style-type: none"> ▪ Alteration or reduction of quality of drinking water supply 	<ul style="list-style-type: none"> ▪ In addition to the routine design and mitigation measures outlined in Westcoast's ESA, Westcoast submitted the following plans which describe measures to mitigate the potential adverse environmental effects of the Project on the quality of drinking water supply: <ul style="list-style-type: none"> ▪ EPP ▪ Flood and Excessive Flow Contingency Plan ▪ Spill Contingency Plan ▪ Instream Drilling Mud Release Contingency Plan ▪ Westcoast commits to developing a specialized integrity assessment program that encompasses the design, construction and operation phases of the pipeline segments near the identified aquifers. The integrity assessment program should ensure that the pipeline in the vicinity of aquifers is designed, constructed and operated in a manner that limits the potential for product release into an aquifer and minimizes the effect should a release occur. ▪ Westcoast further commits to developing a plan to identify alternate water supplies and commit to provide alternate water sources to affected parties, if warranted, in the event an accidental release of product by Westcoast that adversely affects an aquifer.
<ul style="list-style-type: none"> ▪ Loss or alteration of Aboriginal traditional use sites ▪ Disruption of, or inability to carry on, traditional activities 	<ul style="list-style-type: none"> ▪ A Traditional Land Use (TLU) assessment was performed to inventory site-specific traditional land use sites within the proposed Project area, and to determine impact mitigation options in collaboration with representative members of the seven Aboriginal groups participating in the assessment in relation to public lands crossed by the Project. ▪ A total of 269 traditional use sites were identified, with 76 of these recommended as requiring mitigative actions. Aboriginal representatives participating in the TLU assessment expressed a general concern about the cumulative impacts to animal habitat and water resources in the Project area. The TLU assessment recommended that the avoidance of all chemicals (pesticides and herbicides) within and adjacent to the TLU sites requiring impact mitigation should be considered. Westcoast has also developed discovery contingency plans in order to minimize impacts to archaeological and traditional use sites in the event that these are discovered during construction. ▪ Westcoast commits to implementing all recommendations contained in the TLU report. ▪ With respect to potential adverse effects on resources utilized for traditional purposes by Aboriginal peoples, Westcoast has addressed potential impacts to fish mortality, fish habitat and water quality, as described in section 9.3.1 above. Potential impacts to human health are discussed in section 9.3.2. For potential impacts to wildlife (including avian species) and vegetation, Westcoast has proposed routine mitigation measures to address potential adverse environmental effects, as described in Section 6.2 of its ESA, in its related submissions, or as otherwise agreed to during questioning. A summary

Potential Adverse Environmental Effect	Notes
	of all environmental and socio-economic protection procedures would be filed with the Board in an updated Environmental Protection Plan in the event the Project is approved (refer to Recommendation (1) in Section 9.7 for more details).

Legend:  Bio-Physical;  Socio-Economic;  Other

Views of the Board

With respect to all potential environmental effects identified in Section 9.2, other than those that are dealt with individually in the following Section 9.3.2, the NEB is of the view that if Westcoast:

- effectively implements the routine design and mitigation measures proposed in its application and subsequent submissions, and
- adheres to the commitments made during the oral public hearing and the recommendations outlined in Section 9.7 of this ESR,

the Project is not likely to result in significant adverse effects to resources utilized for traditional purposes by Aboriginal peoples and the potential residual environmental effects of the Project are not likely to be significant.

9.3.2 Detailed Analysis of Potential Adverse Environmental Effects

Definitions for the ‘Evaluation of Significance’ Criteria used in the following tables are found in Appendix 2.

Human Health Effects Associated with an Accidental Release of H₂S

Background/Issues	Impacts on human health can potentially occur as a result of an accidental release of gas containing concentrations of H ₂ S in the event of a pipeline leak or failure. The severity of effects on human health depend primarily on the concentration of H ₂ S to which people are exposed, and the length of their exposure. Exposures to low levels of H ₂ S may cause irritation of the mucous membranes (e.g., eye irritation). Exposure to high levels may cause respiratory failure and death. Injuries including permanent or persistent neurological damage or effects have been reported following acute inhalation exposures to H ₂ S. A release of H ₂ S as a result of a pipeline leak or failure has the potential to contaminate groundwater in locations where the pipe depth is lower than the depth to the water table. Exposure to high levels of H ₂ S through groundwater contaminated by a sour gas release can potentially result in severe injury or death.
Mitigation Measures	<ul style="list-style-type: none"> ▪ The EPZ for the Project has been calculated using the plume dispersion modeling program (model ERCBH2S) for sour gas pipelines set out in Alberta Energy Resources Conservation Board (ERCB) Directive 071. The EPZ defines the area within which Westcoast performs various consultation matters, including continuing education and awareness programs regarding pipeline safety and emergency preparedness. The EPZ also delineates the area within which the detailed procedures outlined in Westcoast’s ERP for notification and evacuation will be carried out ▪ The South Peace Project will be incorporated into Westcoast’s existing ERP for the Fort St. John gathering system. Annual updates of the ERP will be completed, and the ERP will be provided to and reviewed with all first responders who provide support in the event of a pipeline emergency. In the event of an emergency, Westcoast will implement their ERP.

	<ul style="list-style-type: none"> ESD valve locations along the right-of-way have been selected to control potential product release volumes. The pipeline design, placement of ESD valves and preventative maintenance procedures, will limit the potential for a large-volume release in the event of a pipeline leak or rupture during operation.
Monitoring	<ul style="list-style-type: none"> Low pressure sensors will cause automatic closure of the ESD valves in the event that pipeline pressure drops below the individual ESD valve set point pressures. The Pipeline route will be subject to periodic aerial patrols and on-the-ground inspections to inspect and service the facilities. Any indications of a gas leakage, such as discoloured or wilted vegetation, bubbles in water puddles or water crossing areas, and/or ice formations over the pipeline, will be investigated.

Legend:  Bio-Physical;  Socio-Economic;  Other

Views of the Board

During normal operations of the pipeline, H₂S is not expected to be released into the environment, and significant leaks or ruptures are considered to be rare events due to the required Integrity Management Program that Westcoast would implement if the Project were to be approved.

The Board is of the view that with the implementation of the design, construction, inspection and maintenance programs, mitigative measures and procedures outlined in the application and subsequent filings, along with any NEB-imposed conditions, and given that the likelihood of a substantial leak or rupture of the proposed pipeline is very low, the risks to human health associated with an accidental release would be minimized.

Evaluation of Significance

Frequency	Duration	Reversibility	Geographical Extent	Magnitude
Accidental	Immediate	Permanent	Local	High
Adverse Effect				
Not likely to be significant				

9.4 Cumulative Effects Assessment

Westcoast's cumulative effects assessment evaluates the adverse residual effects directly associated with the Project in combination with the adverse residual effects arising from other projects and activities that have been, are presently underway or are likely to be carried out in the vicinity of the Project.

Westcoast's cumulative effects assessment methodology is discussed in Section 7.0 of the ESA submitted in its application.

Past activities identified include settlement in the area, agriculture, forestry, oil and gas activities (*i.e.*, pipelines, facilities), transportation activities (*i.e.*, creation of roads and railways), and utility activities (*e.g.*, powerlines). The predominant projects that Westcoast noted which could potentially interact with the Project include: BP Canada Energy Company, Duvernay Oil Corporation Development, EnCana Oil and Gas Corporation Ltd., Huron Energy Corporation, Husky Oil Operations Ltd., Pienza Petroleum Inc., SEMC and Storm Exploration Inc. developments; Westcoast McMahon Plant Maintenance and Modifications; West Doe Plant expansion and sales pipeline; Tupper Pipeline and Gathering System; Redwillow Pipeline; Sunrise Pipeline and Bear Mountain Wind Park.

Westcoast identified potential cumulative residual effects associated with the following biophysical and socio-economic elements:

- physical elements such as soil and soil productivity, air quality, and acoustic environment;
- biological elements such as wetlands, fish and fish habitat, vegetation, wildlife and wildlife habitat, and species at risk;
- socio-economic elements such as human occupancy and resource use, heritage resources, traditional land and resource use, social and cultural well being, and infrastructure and services.

Westcoast stated that its proposed Project-specific environmental protection and mitigation measures would address the majority of potential cumulative residual effects and that the environmental and socio-economic effects associated with the construction and operation of the Project are not unlike those routinely encountered during pipeline and associated facility construction in forested and agricultural settings. The exception relates to riparian vegetation, and the following paragraphs discuss specific mitigation measures that Westcoast is proposing, beyond its routine project-specific mitigation, to address cumulative effects related to that particular bio-physical element.

Riparian Vegetation

Where stream crossings occur in areas where agricultural use also occurs, Westcoast stated that the construction of the Pipeline could interact cumulatively with livestock grazing to result in an incremental change in riparian habitat, and to fish and fish habitat.

Westcoast noted that it would be necessary to carefully monitor the reestablishment of disturbed riparian areas post-construction. Routine revegetation activities, such as planting trees or shrubs and installing hedge brush layering, grass rolls or tree revetments in the banks of watercourses, would be undertaken for all disturbed riparian areas, however if livestock use appears to be limiting the re-establishment of vegetation, additional mitigation (*e.g.*, temporary fencing to exclude cattle until the vegetation is re-established) may be required.

Westcoast also stated that the need for this additional mitigation would be determined during post-construction monitoring at watercourse crossings.

Views of the Board

The Board is of the view that, taking into consideration Westcoast's proposed Project-specific mitigation measures, its additional measures proposed to further mitigate cumulative effects, and the NEB's recommendations referred to in Section 9.7, the proposed Project is not likely to result in significant adverse cumulative environmental effects in combination with other projects or activities that have been or will be carried out.

9.5 Inspections and Monitoring

Westcoast stated that Environmental Inspectors would be assigned to the construction of the pipeline to ensure that the proposed mitigative measures are properly implemented. Training programs have been developed for all construction and inspection personnel, and will be implemented to ensure that all individuals are aware of the environmental issues and their respective responsibilities. Responsibilities of Westcoast's Project inspection team related to environmental program implementation are outlined in Westcoast's Environmental Manual.

As part of its overall mitigation, Westcoast has committed to conducting a Post-construction Monitoring Plan (PCMP) to determine the effectiveness of measures taken to mitigate the adverse environmental

effects of the Project. The PCMP would include an assessment of reclamation, revegetation, erosion control and any weed problem areas along the pipeline RoW. The PCMP would also take into consideration recommendations made and any unresolved issues identified in the Environmental As-Built report, and where warranted, measures would be developed to resolve any outstanding issues.

Views of the Board

While the Board recognizes Westcoast's commitments to conducting post-construction monitoring, the Board is concerned that inspectors may have difficulty in performing their duties if they have to refer to a number of documents (*i.e.*, the application, supplementary submissions and manuals) to find mitigation commitments. Therefore, the NEB is of the view that Westcoast should consolidate all mitigation measures and commitments into a single EPP. Refer to Recommendation (1) in Section 9.7 for more details.

The Board also notes that, pursuant to the NEB Act, the Board has its own inspection program and Board Environmental Inspectors are tasked with ensuring protection of the environment.

9.6 Follow-Up Program

The Project and its associated activities are generally routine in nature and the potential adverse environmental effects of the Project are expected to be similar to those of past projects of a similar nature in a similar environment. For this reason, the NEB is of the view that a follow-up program pursuant to the CEA Act would not be appropriate for this Project.

9.7 Recommendations

It is recommended that, in any Certificate that the NEB may grant, a condition be included requiring Westcoast to carry out all of the environmental protection and mitigation measures outlined in its application and subsequent submissions.

For the purposes of the following recommendations, the term "commencement of construction" includes the clearing of vegetation, ground-breaking and other forms of RoW preparation that may have an effect on the environment, but does not include activities associated with normal surveying operations.

Further, other recommendations include:

- (1) Westcoast shall file with the Board for approval, at least 45 days prior to commencement of construction, an updated Project-specific Environmental Protection Plan (EPP). The EPP shall describe all environmental and socio-economic protection procedures, and mitigation and monitoring commitments, as set out in the application or as otherwise agreed to during questioning, in its related submissions or through consultations with other government agencies. A cover letter shall be submitted with the EPP which provides a summary of consultation that has taken place with government agencies regarding the included mitigation. Construction shall not commence until Westcoast has received approval of its EPP from the Board.
- (2) Westcoast shall cause the approved Project to be designed, located, constructed, installed, and operated in accordance with the specifications, standards and other information referred to in its application or as otherwise agreed to during questioning or in its related submissions.
- (3) Westcoast shall file with the Board an Archaeological Impact Assessment report for the approximately 4.5 km of the Project right-of-way not included in Final Permit Report 2007-357, at least 30 days prior to the planned commencement of construction activities within any portion of the identified 4.5 km Project right-of-way. This report shall include the mitigation measures Westcoast proposes to address any identified impacts.

- (4) Westcoast shall file with the Board, at least 30 days prior to the planned commencement of construction activities:
- a) copies of correspondence from the BC Archaeology Branch regarding the acceptability of Westcoast's archaeological and heritage resource impact assessment reports and proposed mitigation measures; and
 - b) a statement on how Westcoast intends to implement the recommendations contained in (a).

10.0 THE NEB'S CONCLUSION

The NEB is of the view that, with the implementation of Westcoast's environmental protection procedures and mitigation measures, and the NEB's recommendations, the proposed Project is not likely to cause significant adverse environmental effects.

11.0 NEB CONTACT

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APPENDIX A: SCOPE OF THE ENVIRONMENTAL ASSESSMENT

National Energy
Board



Office national
de l'énergie

File OF-Fac-Gas-W102-2008-03 01
2 May 2008

To: Attached Distribution List

Hearing Order GH-3-2008

Westcoast Energy Inc., carrying on business as Spectra Energy Transmission (Westcoast) – South Peace Pipeline Project (the Project) Scope of the Environmental Assessment

On 12 March 2008, the National Energy Board released Hearing Order GH-3-2008 for the Project. Within the Hearing Order, the Board included a draft scope of the environmental assessment for the Project, and requested comments from the public and government agencies on that document.

No specific comments on the content of the draft scope were received during the allotted comment period. On 3 April 2008, the Canadian Alliance of Pipeline Landowners' Associations (CAPLA) and the Kiskatinaw Pipeline Landowners Association (KPLA) jointly filed a letter dated 1 April 2008 as a comment on the draft scope. However, rather than specifically addressing the content of the draft scope, the letter focused on a request for the Board to reconsider its decision not to request that the Minister of the Environment refer the Project to a review panel. The letter also raised concerns regarding the amount of new right-of-way required for the Project. The Board's response to the CAPLA/KPLA letter is the subject of separate Board correspondence of today's date.

On 17 April 2008, Westcoast filed its response to Board Information Request #1. In that filing, Westcoast provided an update with respect to the length of the proposed pipeline segment north of the Peace River. The Board has amended the scope accordingly to reflect that update and notes that the proposed amount of new right-of-way has not been altered as a result of the newly filed information.

Pursuant to the *Canadian Environmental Assessment Act*, the Board has determined the scope of the environmental assessment, as attached to this letter.

Yours truly,

Aline Marie Erickson

for
Claudine Dutil-Berry
Secretary of the Board

Attachments

c.c.: GH-3-2008 List of Parties

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**Westcoast Pipelines Inc., carrying on business as
Spectra Energy Transmission
South Peace Pipeline Project
Scope of the Environmental Assessment
Pursuant to the Canadian Environmental Assessment Act**

A1.1 INTRODUCTION

On 27 February 2008, Westcoast Energy Inc., carrying on business as Spectra Energy Transmission (Westcoast) filed an application with the National Energy Board regarding its proposed South Peace Pipeline Project (the Project). The Project would be an extension of Westcoast's existing Fort St. John raw gas transmission system to an area south of the Peace River and the existing McMahon processing plant, located at Taylor, British Columbia (BC). The Project would involve the construction and operation of approximately 91.7 kilometres (km) of raw natural gas pipeline and associated infrastructure. Natural gas reserves that are connected to the Westcoast system by the Project would be transported to the McMahon plant for processing. The capacity of the Project would be approximately $6\ 260.4\ 10^3$ cubic metres per day (221 million standard cubic feet per day) of sour dehydrated natural gas.

A Certificate of Public Convenience and Necessity, pursuant to section 52 of the *National Energy Board Act* (NEB Act), would be required and the proposed Project would be subject to an environmental screening under the *Canadian Environmental Assessment Act* (CEA Act).

A1.2 SCOPE OF THE ASSESSMENT

A1.2.1 Scope of the Project

The scope of the Project as determined for the purposes of the environmental assessment (EA) includes the various components of the Project as described by Westcoast in its application for the Project, and the physical works and activities described in this document.

The scope of the Project includes construction, operation, maintenance and foreseeable changes and, where relevant, the abandonment, decommissioning and rehabilitation of sites relating to the entire Project, and specifically, the physical works and activities described below.

Proposed Project Facilities

The Project would consist of approximately 91.7 km of raw gas pipeline facilities, including pipeline segments south and north of an existing 323.9 millimetre (mm) (12.75-inch) outside diameter (OD) pipeline (the Existing Pipeline) that crosses the Peace River approximately 1 km downstream of Taylor. More specifically, the Project includes the following facilities:

South Peace Pipeline:

- Approximately 87.5 km of 508.0 mm (20-inch) OD pipeline extending from a producer receipt point at c-95-e, 93-p-08 to the southern end of the Existing Pipeline (south of the Peace River at SW1/4 04-082-17 W6M).
- Approximately 14 emergency shutdown valves and associated Supervisory Control and Data Acquisition (SCADA) monitoring.
- Pigging facilities at either end of the pipeline.

McMahon Tie-in Pipeline:

- Approximately 4.2 km of 508.0 mm (20-inch) OD pipeline connecting the northern end of the Existing Pipeline (north of the Peace River at NE1/4 31-082-17 W6M) to the McMahon processing plant at NE1/4 25-082-18 W6M.
- Pigging facilities at either end of the pipeline.

Liquids Handling Loop:

- A 508.0 mm (20-inch) OD pipeline loop (approximately 1 km in length and terminating at the McMahon plant) would be installed in a common trench with the McMahon Tie-in Pipeline, to provide liquids handling capability.

The proposed pipeline facilities would be designed to transport sour natural gas with an anticipated hydrogen sulphide content of five percent.

The Project would require approximately 68.5 km of new right-of-way (RoW) that is not alongside and contiguous to existing RoW and would result in approximately 30 crossings of both named and unnamed watercourses and tributaries.

Staging areas, temporary construction workspace, access roads, equipment laydown areas, borrow pits, construction office sites and work camps, if required, are also included in the scope of the Project.

It should be noted that any modifications or decommissioning/abandonment activities would be subject to future examination under the NEB Act and consequently, under the CEA Act, as appropriate. Therefore, at this time, these activities will be examined in a broad context only.

A1.2.2 Factors to be Considered

The EA will include a consideration of the following factors listed in paragraphs 16(1)(a) to (d) of the CEA Act:

- (a) the environmental effects of the Project, including the environmental effects of malfunctions or accidents that may occur in connection with the Project and any cumulative environmental effects that are likely to result from the Project in combination with other projects or activities that have been or will be carried out;
- (b) the significance of the effects referred to in paragraph (a);
- (c) comments from the public that are received during the EA process; and
- (d) measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the Project.

In addition, pursuant to paragraph 16(1)(e), the EA will consider alternative means of carrying out the Project that are technically and economically feasible and the environmental effects of any such alternative means.

For further clarity, subsection 2(1) of the CEA Act defines ‘environmental effect’ as:

- (a) any change that the project may cause in the environment, including any change that the Project may cause to a listed wildlife species, its critical habitat or the residences of individuals of that species as defined in the *Species at Risk Act*;

- (b) any effect of any change referred to in paragraph (a) on
 - i. health and socio-economic conditions,
 - ii. physical and cultural heritage,
 - iii. the current use of lands and resources for traditional purposes by aboriginal persons,
 - iv. any structure, site or thing that is of historical, paleontological, or architectural significance; or
- (c) any change to the Project that may be caused by the environment, whether any such change or effect occurs within or outside Canada.

A1.3 Scope of Factors to be Considered

The EA will consider the potential effects of the proposed Project within spatial and temporal boundaries which encompass the periods and areas during and within which the Project may potentially interact with, and have an effect on, components of the environment. These boundaries will vary with the issues and factors considered, and will include:

- construction, operation, decommissioning, site rehabilitation and abandonment or other undertakings that are proposed by the Proponent or that are likely to be carried out in relation to the physical works proposed by the Proponent, including mitigation and habitat replacement measures;
- the natural variation of a population or ecological component;
- the timing of sensitive life cycle phases of wildlife species in relation to the scheduling of the Project;
- the time required for an effect to become evident;
- the time required for a population or ecological component to recover from an effect and return to a pre-effect condition, including the estimated degree of recovery;
- the area affected by the Project; and
- the area within which a population or ecological component functions and within which a Project effect may be felt.

For the purpose of the assessment of the cumulative environmental effects, the consideration of other projects or activities that have been or will be carried out will include those for which formal plans or applications have been made.

APPENDIX B: EVALUATION OF SIGNIFICANCE CRITERIA DEFINITIONS

The table below defines the criteria used by the NEB for evaluating the significance of the potential effects discussed in Section 9.3.2. These criteria and definitions are largely based on information used by Westcoast within its application; however, the NEB added its own criteria, ‘Evaluation of Significance’, and included a corresponding definition.

Criteria	Definition
Frequency (how often would the event that caused the effect occur)	<p>Accidental: Occurs rarely over assessment period.</p> <p>Isolated: Confined to specified period.</p> <p>Occasional: Occurs intermittently and sporadically over assessment period.</p> <p>Periodic: Occurs intermittently but repeatedly over the construction and operations period</p> <p>Continuous: Occurs continually over the construction and operations period.</p>
Duration (period of the event causing the effect)	<p>Immediate: Event duration is limited to less than or equal to two days.</p> <p>Short-term: Event duration is longer than two days but less than or equal to one year.</p> <p>Medium-term: Event duration is longer than one year but less than or equal to ten years.</p> <p>Long-term: Event duration extends longer than ten years.</p>
Geographic Extent	<p>Footprint: The land area disturbed by assessment, construction and reclamation activities, including associated physical works and activities (<i>i.e.</i>, permanent right-of-way, temporary construction workspace, temporary access route, temporary stockpile sites, temporary staging areas, and ESD valve stations).</p> <p>Local: The area extending beyond the Footprint. The boundary for this area varies with the element being considered and is based on the zone of influence within which plants, animals and humans are most likely to be affected by Project construction and operation. For the biophysical elements and resource use related socio-economic elements, the local study area is defined as a 2 km wide band centered on the proposed pipeline route, the exception to this is air quality. For the construction phase the LSA for air quality is defined as a 1 km wide band centered on the proposed pipeline route and for the operations phase, the LSA extends as a circular region with a radius of 2.5 km extending from each of the sites where the sour natural gas will be incinerated. For social elements (<i>e.g.</i>, social and cultural well-being), local effects are related to specific communities considered in the socio-economic assessment.</p> <p>Region: A RSA consists of the area extending beyond the LSA boundary. The boundary for the RSA is generally defined as a 15 km wide band centered over the proposed pipeline right-of-way. For socio-economic elements such as human occupancy and resource use and infrastructure and services, the City of Dawson Creek is also included in the RSA since it may be used for worker accommodation and recreation.</p> <p>Province: The area extending beyond regional or administrative boundaries, but confined to BC (<i>e.g.</i>, provincial permitting boundaries, etc.).</p> <p>Transboundary: The area extending outside Canada.</p>
Reversibility	<p>Immediate: Residual effect is alleviated in less than or equal to two days.</p> <p>Short-term: Greater than two days and less than or equal to one year to reverse residual effect.</p> <p>Medium-term: Greater than one year and less than or equal to ten years to reverse residual effect.</p> <p>Long-term: Greater than ten years to reverse residual effects.</p> <p>Permanent: Residual effects are irreversible.</p>
Magnitude	<p>Negligible: Residual effects are not detectable.</p> <p>Low: Potential effects are detectable, but well within environmental and/or social standards or tolerance.</p> <p>Medium: Potential effects are detectable and may approach, but are still within the environmental and/or regulatory standards or tolerance.</p> <p>High: Potential effects are beyond environmental and/or social standards or tolerance.</p>
Evaluation of Significance	“Likely to be significant” would typically involve effects that are of high probability, irreversible, and regional in extent or of high magnitude.

APPENDIX C: COMMENTS ON THE DRAFT ESR

The table below provides a summary of the comments received by the NEB on the Draft ESR. Explanations have been included for comments that did not result in changes to the ESR, and for comments that were addressed in part. TC and Westcoast provided several clarifications on wording which resulted in non-substantive changes throughout the ESR. These clarifications are not summarized below.

Interested Party	Comments	ESR Section(s) Where Wording was Modified or Added	Explanation as to why Wording was not Modified in the ESR
Transport Canada (TC)	TC recommended clarifying the purpose of log decking sites in Section 1.1.	1.1	n/a
	TC recommended adding Federal departments as an information source for the ESR to Section 1.2.	1.2	n/a
	TC suggested Section 2.0 should establish the scope of alternatives considered, including pipeline route assessments.	n/a	Existing wording in Section 2.2 and 9.1 addresses alternative means in the context of pipeline routing.
	TC requested the insertion of further information on the volume and source of hydrostatic test water in Section 5.1.	n/a	The Board notes that Westcoast discusses mitigation measures for the withdrawal and release of hydrostatic test water in Section 3.6 of Table 6.2 of its ESA and Section 6.5.2 of its Environmental Manual, and that, in the Board's view, the current level of detail contained within the ESR is sufficient.
	TC requested that Section 5.2 include information on the frequency of line patrols.	5.2	The Board adds that line patrols would be conducted "in accordance with the NEB's <i>Onshore Pipeline Regulations, 1999</i> ", as the frequency of line patrols may be coordinated with other companies and may vary as issues arise.
	TC noted route selection criteria in Section 9.1 included avoiding important wildlife and plant species and habitat and requested further details on the nature of these considerations for each of the major routes considered.	n/a	The reader may infer that avoidance of important wildlife and plant species is correlated with the key selection criteria discussed (e.g. reduced watercourse crossings and requirements of new RoW), and directs the reader to Section 4.0 of Westcoast's ESA for more detailed analysis.
	TC requested a description of the subsequent NEB detailed route process referred to in Section 9.1 Views of the Board, and noted that further deviations may require NWPA approval.	9.1	n/a
	TC recommends defining "standard mitigation measures", that all potential adverse environmental effects should be identified in Section 9.3.1 of the ESR, and that the "Notes" title of the second column of the Table in 9.3.1 should be changed to "Mitigation".	9.3.1	<p>The Table included in Section 9.3.1 only provides additional discussion on the potential adverse environmental effects and associated mitigation that have been the subject of comments received, and refers the reader to Westcoast's application for further detail.</p> <p>The "Notes" section of the Table in 9.3.1 provides the details of actions taken by Westcoast to address comments received, in addition to providing details on project specific mitigation, therefore the existing title was</p>

Interested Party	Comments	ESR Section(s) Where Wording was Modified or Added	Explanation as to why Wording was not Modified in the ESR
			deemed appropriate.
	TC provided wording clarifications for Section 9.3.1- Interference with navigation of waterways.	9.3.1	n/a
	TC requested the addition of a statement as to why only the section on Human Health effects was evaluated using the Frequency/Duration/Reversibility/Geographical Extent/Magnitude table.	9.3	The Board directs the reader to Westcoast's application for its residual effects analysis criteria and methodology.
	TC requested the insertion of additional information on the PCMP.	n/a	The Board directs the reader to Section 8.0 of Westcoast's ESA for further detail on its inspection and monitoring programs and notes the EPP Recommendation in Section 9.7 of this ESR to consolidate all mitigation commitments.
	TC requested the insertion of further information on cumulative effects assessment methodology.	9.4	n/a
	TC suggested that wording in the third paragraph of the Cumulative Effects section (changed from 9.5 to 9.4) be adjusted to clarify the conclusions.	n/a	The Board notes that this paragraph reflects a statement made by Westcoast, and does not reflect acceptance of cumulative effects by the Board and/or other RAs. A description of the views of the Board is included at the bottom of Section 9.4.
	TC noted that the need for approvals requires consideration of the environmental effects likely to result from issuing these approvals, including the environmental effects of any change on the environment on traditional land use by Aboriginal peoples, and included a summary document of discussions with Aboriginal groups and the Government of Canada.	n/a	The consideration of the effects of the Project on traditional land use by Aboriginal peoples is outlined in Section 9.3.1. An assessment of consultation with Aboriginal peoples and an assessment of impacts on Aboriginal interests will also be discussed in the Board's Reasons for Decision.
	TC notes that the Blueberry River First Nation expressed interest in providing ground monitors for the Project.	n/a	Westcoast's proposed inspections and monitoring programs are addressed in section 9.5.
	TC notes that the Kelly Lake Metis Settlement Society and the Kelly Lake Cree First Nation expressed concerns regarding cumulative effects associated with the Project.	n/a	The cumulative effects of the Project are discussed in Section 9.4. The Board is of the view that, taking into consideration Westcoast's proposed project-specific mitigation measures, its proposed additional measures to further mitigate cumulative effects, and the Board's recommendation that Westcoast carry out all environmental protection and mitigation measures outlined in its application and subsequent submissions, the Project is not likely to result in significant adverse cumulative environmental effects.
	TC notes that the Kelly Lake Metis Settlement Society also expressed concern regarding potential Project impacts on existing traplines.	9.3.1	Sections 6.0 and 9.3.1 of the ESR address traditional land and resource use. The Board notes that a comprehensive Traditional Land Use Sites Assessment was undertaken as part of the application for the Project. The Assessment was conducted with representatives from Aboriginal communities in the Project area including the Kelly Lake Métis Settlement Society. Westcoast commits to implementing all of the recommended

Interested Party	Comments	ESR Section(s) Where Wording was Modified or Added	Explanation as to why Wording was not Modified in the ESR
			<p>mitigating measures contained in the Traditional Land Use Sites.</p> <p>The Board is of the view that, taking into consideration Westcoast's proposed project-specific mitigation measures, and the Board's recommendation that Westcoast carry out all environmental protection and mitigation measures outlined in its application and subsequent submissions, the Project is not likely to result in significant adverse effects to resources utilized for traditional purposes by Aboriginal peoples.</p>
	TC noted that, in its discussions with the Kelly Lake Cree First Nation, the Kelly Lake Cree First Nation expressed concerns regarding H ₂ S leaks.	n/a	<p>The Board has addressed the human health effects associated with an accidental release of H₂S in Section 9.3.2. The Board notes that, with the implementation of the design, construction, inspection and maintenance programs, mitigative measures and procedures outlined in Westcoast's application and subsequent filings, and given that the likelihood of a substantial leak or rupture of the proposed pipeline is very low, the risks to human health associated with an accidental release would be minimized.</p>
Kelly Lake Cree Nation (as submitted by Transport Canada)	TC attached a letter from the Kelly Lake Cree First Nation. The letter expressed the Kelly Lake Cree First Nation's concerns with a number of issues. The Kelly Lake Cree First Nation expressed concerns regarding the capture and dissemination of traditional land use, archaeological and paleontological information. The letter also noted concerns about the impacts the Project may have on their Aboriginal rights due to potential impacts to water quality, fish, waterfowl, plants, animals and human health.	9.3.1	<p>Sections 6.0 addresses traditional land and resource use as well as heritage, archaeological and paleontological resources. Section 9.3.1 discusses effects on traditional land and resource use. The Board notes that a comprehensive Traditional Land Use Sites Assessment and Archaeological Impact Assessment were undertaken as part of the application for the Project. Both studies were conducted with representatives from Aboriginal communities in the Project area including the Kelly Lake Cree First Nation. Westcoast commits to implementing all of the recommended mitigating measures contained in the Traditional Land Use Sites Assessment and Archaeological Impact Assessment reports. The Board also notes that the Traditional Land Use Sites Assessment and Archaeological Impact Assessment were reported on in a manner that protects detailed traditional land use information that is considered proprietary to participating Aboriginal communities.</p> <p>The Board is of the view that, taking into consideration Westcoast's proposed project-specific mitigation measures, and the Board's recommendation that Westcoast carry out all environmental protection and mitigation measures outlined in its application and subsequent submissions, the Project is not likely to result in significant adverse effects to resources utilized for traditional purposes by Aboriginal peoples.</p>
Fisheries and Oceans Canada	DFO requested addition of its role as an FA in Section 3.1.	3.1	n/a

Interested Party	Comments	ESR Section(s) Where Wording was Modified or Added	Explanation as to why Wording was not Modified in the ESR
Kiskatinaw Pipeline Landowners Association (KPLA)	KPLA expressed their lack of support for the Board's decision to proceed with a screening level of assessment for the Project and its conclusion that there will be no adverse effects associated with the Project, and notes that KPLA will address outstanding concerns via the detailed route hearing process. KPLA further reiterated its concerns with respect to the safety of a sour gas pipeline.	n/a	<p>The Board is of the view that referral of the project to a review panel pursuant to CEAA was not warranted in the circumstances and directs the reader to its letters to CAPLA and KPLA, sent on 19 March 2008 and 2 May 2008, for more detail to that effect.</p> <p>The Board further notes that it did not conclude that "there will be no adverse effects associated with the project". Existing wording in Section 10.0 expresses the Board's view with respect to significance.</p> <p>The Board has addressed the human health effects associated with an accidental release of H₂S in Section 9.3.2.</p>
Edward and Gwenda Henderson	The Hendersons noted outstanding concerns relating to the HDD test sites and crossing at Brassey Creek, and the potential noise effects of aerial patrols on their ranch.	n/a	<p>The Board notes that a horizontal directional drill crossing is proposed for Brassey Creek, in order to minimize environmental impacts associated with the crossing of this watercourse, including disturbance to surrounding riparian areas. This would therefore eliminate the need for temporary fencing.</p> <p>Westcoast also acknowledges the Hendersons' concern regarding the potential for noise resulting from periodic aerial patrols of the pipeline right-of-way. Westcoast states, in its Comments Regarding South Peace Pipeline Project Draft Environmental Screening Report, that it will "endeavour to avoid disturbing local residents and livestock" while conducting these patrols.</p> <p>The Board also notes that if those landowners whose lands may be affected by the proposed project have specific concerns with the detailed route or the methods or timing of construction, they may request a detailed route hearing be held.</p>
	The Hendersons noted concerns with Westcoast's statement that the Pipeline does not traverse any Ungulate Winter Ranges.	List of Acronyms and Abbreviations	<p>The Board adds the definition of Ungulate Winter Range (UWR) to its List of Acronyms and Abbreviations in the ESR.</p> <p>The Board further notes that while the Project would not traverse any lands with the formal UWR designation, it does impact lands used as habitat by ungulate species, and directs the reader to Section 6.2. of Westcoast's ESA for further detail on the mitigation measures Westcoast has committed to implement to mitigate disturbance to wildlife.</p>
Westcoast	Westcoast recommended wording clarifications for Section 9.3.1 related to the introduction or spreading of weed, disturbance to local residents from increased noise levels during construction and interference with navigation of waterways as suggested by TC.	9.3.1	n/a

